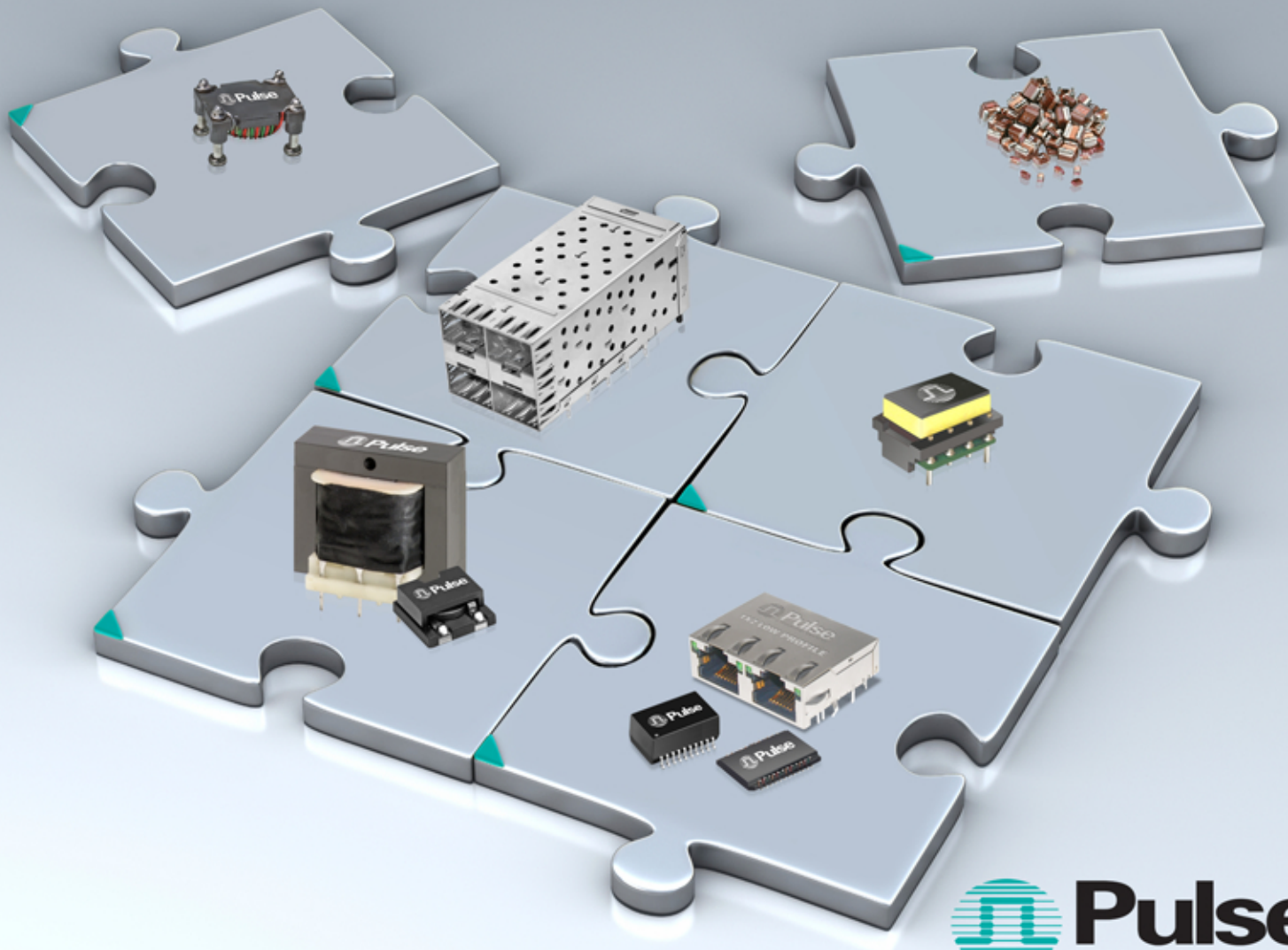
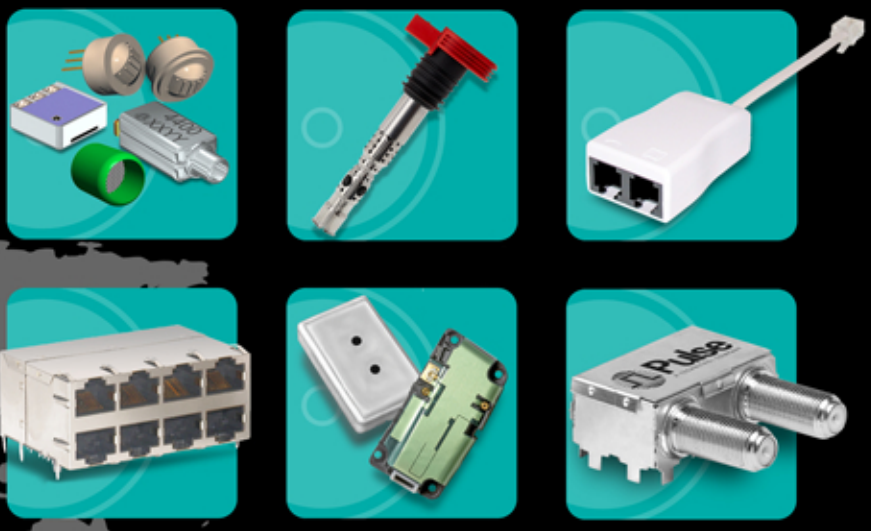


Pulse
A TECHNITROL COMPANY

INTELLIGENT SOLUTIONS

LAN
RF & Wireless
Telecom
Power Conversion
Automotive
Military/Aerospace

Hearing
xDSL
Connectors
Advanced Acoustics
CO & CPE
Microacoustics



Product Catalog 2009

ABOUT PULSE

Pulse, a worldwide leader in electronic component and subassembly design and manufacturing, has multiple product lines, ranging from passive components that cover power and signal products used in computing, networking and communications, power conversion, defense, aerospace, automotive, and consumer electronics to baluns, diplexers, splitters, and filters for xDSL, home networking; and, antennas for wireless electronic devices, automobiles, and security equipment.

Included in the portfolio are antennas for wireless applications. Pulse has antennas for just about any mobile or wireless platform. In addition, a large inventory of catalog connectors, both filtered and unfiltered, makes "design-in" painless and easily managed. Product diversity and individual product line growth positions Pulse as one of the largest resources for catalog and custom components, subassembly design, and manufacturing for electronic OEMs, contract manufacturers, and ODMs.

Pulse's passive components and modules are typically mounted on a printed circuit board near integrated circuits or within connector modules. These components manage and regulate electronic signals and power by filtering out electromagnetic interference (EMI) and ensure proper current and voltage. Without them, today's computers, networks, wireless phones, automobiles, TVs, and other electronic devices simply would not operate. These products include inductors, transformers, chokes, splitters, and filters.

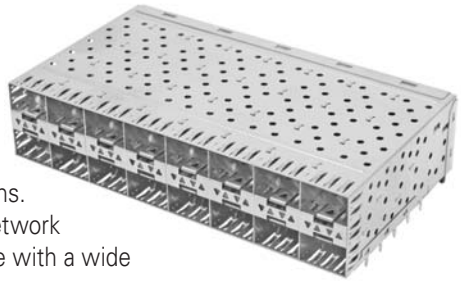
Other product include antennas for mobile devices, connectors, couplers, delay lines, power transformers and inductors for automobiles, acoustics and medical components, HVTs (high volume transducers) and value-added custom assemblies. These products support an array of technical applications and platforms such as Ethernet, DSL/HPN/Cable, PoE, VoIP, RF, MIL-STD-1553, AC/DC and DC/DC Power Conversion, wireless telecommunications, Fibre Channel, T1, T3, ISDN, IPTV, CCTV, mobile TV, hearing aids and medical devices. Working closely with third-party manufacturers around the world, Pulse ensures the quality and performance of the latest technology used in its products.

Pulse supports a multinational customer base with local customer service and design centers in North America, Europe and Asia. Strategically located support centers enable Pulse's design, marketing and sales teams to better understand and more readily serve customers. Focus on Pulse's design and manufacturing expertise of innovative products, in collaboration with customers, ensures products are delivered on time and on budget. Pulse markets products through component distributors, regional sales representatives and direct sales managers.

Pulse actively participates in industry standards organizations such as IEEE, ATIS, ETSI, HDMI, the DSL Forum, CommNexus, and MoCA. Through ongoing research and development, Pulse also continues to receive patents for new and innovative products as well as unique manufacturing processes.

This publication contains an extensive collection of various catalog products. Pulse also offers custom and semi-custom designs for all product lines. To help you easily find the parts you need, the Pulse website offers a Parts Index Search, Attribute and Product Finder search, a site search along with key contacts for each application. Access the product searches by clicking on a "tile" on the Pulse home page, *http://www.pulseeng.com*, that shows the name of the product group that interests you.

FEATURED PRODUCTS



Pulse SFP 2x8 Connector Provides High Port Density for Lower System Cost

This cage is part of a line of ganged cages up to a 2x8 SFP (small-form-factor-pluggable) cage for use in high-end Ethernet networking equipment such as blade servers, switches, routers, and add/drop multiplexers. It connects and shields transceivers in ethernet applications. Connectors and cages improve the performance and reliability of transceivers, and thus the network they are connecting. The unique construction makes these cages more rugged and compatible with a wide variety of commercial transceivers.

Several unique features of the SFP032-L cage eliminate frequently encountered problems when installing cages. The cage has a two-piece structure to prevent deforming during press fitting. Press fitting force is applied only to the cage top section, while forces on either side of the cage are balanced so they will not twist or buckle. To prevent interference with the transceiver, the improved EMI tab rests on the cage so that the end does not sink into the cage when pressed. Pulse modified the cage with a special latch to accommodate a wide variety of transceivers and transceiver modifications, including those with short-travel actuating slides, which are commonly difficult to access to unlock and extract. The slot depth of the middle cage, prevents interference with the middle cage transceiver, another common problem.

Pulse cages and connectors are quite versatile. They can handle optical transceiver links as well as transceivers configured as traditional copper RJ45 connectors, enabling conformity to each company's internal networking requirements for balancing load and bandwidth. This product can be found on page 31 in this catalog and on the web at *http://ww2.pulseeng.com/products/datasheets/SFP032-L.pdf*.

TABLE OF CONTENTS

FEATURED PRODUCTS

New DCU Scroller with Discreet Linear Activation Mode

This new, high-quality hearing aid component, called the DCU Scroller, is designed for both behind-the-ear (BTE) and in-the-ear (ITE) hearing devices. The new volume control has a housing diameter of just 3.8mm (0.15 in.). It enables simple and discreet volume adjustments in a the hearing device.

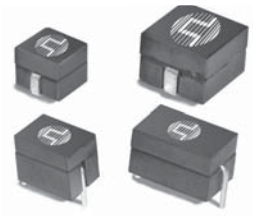
The digital control unit comes with a lowered flange for BTE mounting and a flush flange for ITE mounting. The DCU Scroller is a relative position indicator, meaning it emits pulses only when rotated. With 10 pulses per rotation, sound attenuation is optimized for both fast and accurate volume adjustments by the user. Details about the DCU Scroller are available on data sheet MT1044A1208 (http://www.pulseeng.com/file.php?3502) on the Pulse website. View two short video clips of the DCU Scroller at: *http://www.pulseeng.com/index.php?1119* (video links are just above the chart).

With a dramatically reduced size, the scroller fits well with the new narrow, small BTEs and is barely detectable with ITE hearing instruments. The small size and the linear activation mode make the DCU Scroller the ultimate in discreet audio control. See the product chart on page 1 in this catalog. And, view two videos at *http://www.pulseeng.com/index.php?1231*.

Integrated Speaker/Antenna Modules for Mobile Devices

Simpler build-solutions are available for handset vendors with this new speaker/antenna modules that was rigorously tested and optimized for audio and RF performance. Pulse has combined the R&D expertise of its HVT Division with that of its Antenna Division to deliver sound solutions that meet the demands of many market segments such as mobile phones, cameras, laptops, GPS systems, headsets, mp3 players, and game consoles.

This innovative platform technology leverages global research and development competencies and Pulse's "best-in-class" operations in China to offer customers high-performance, cost-competitive components in large quantities within short lead-times. Using a cross-functional team approach to increase vertical supply chain integration speeds up the design cycle while maximizing performance, reducing part count, and process steps and cost. This approach enables Pulse to view a technology from multiple angles, resulting in new combinations of performance capabilities. For more information on this product, e-mail *antennasales.europe@pulseeng.com*.



Power Bead Inductors Meet the Need for Improved Efficiency in Desktop, Notebook and Server Applications

Seven new series of through hole and surface mount power bead inductors, now, allow the designer to optimize performance across a broad range of applications, frequencies, load requirements, and improve efficiency by more than 5%. They are PA1682.XXXNL, PA2083.XXXNL, PA2509.XXXNL, PA2202.XXXNL, PA2607.XXXNL, PA2150.XXXNL, PA2125.XXXNL:

(http://www.pulseeng.com/index.php?id=619&news_id=221).

These off-the-shelf power beads are the best solution for multi-phase buck regulator applications. Their low DCR minimizes inductance losses, their ferrite cores minimize inductor switching losses, and a small footprint allows for board space.

The THT beads are used in power supplies for desktop computing. The SMT versions are used in notebook computing, servers, graphics cards, and point-of-load (PoL) applications. For more information, go to page 41 in this catalog. See the "Switching Power Magnetics" catalog pages 27-30 and at: *http://ww2.pulseeng.com/products/datasheets/SPM2007.pdf*

FEATURED PRODUCTS

Exceptionally Slim 3.05mm Micro-acoustic Speaker

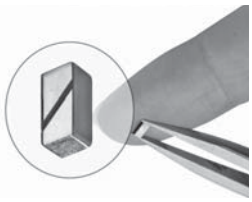
The MX16-SL micro-acoustic speaker is used in applications where a slim design is desired. The MX16-SL generates voice and music in mobile phones, laptops, GPS systems, still cameras, MP3 players, portable gaming consoles, DVD players, and hands-free devices.

The MX16-SL is a slim 3.05mm speaker. It has a free field resonance frequency of 600 Hz for powerful low-frequency performance with a sensitivity of 73.5 dB/W/m and an impedance of 7.5 Ω. Based on the MX16, a component that has been the world-standard for acoustic speakers, the MX16-SL is 22% narrower and has a 27% lower frequency than previous speakers. These characteristics meet continuing market demand for more compact consumer products.

Slimmer than the industry standard for 16mm diameter components, the MX16-SL speaker utilizes the same form and contact area, making it a drop-in solution for all products where a standard MX16 configuration is used. The leaf-spring mounts make for easy assembly without tools or solder irons.

More information at: *http://www.pulseeng.com/index.php?1126* and on catalog page 9.

Pulse Introduces the Smallest GPS Antenna on the Market

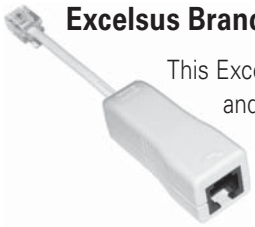


The W3011 is the newest member of the Pulse GPS chip antenna family. It is the world's smallest GPS antenna and the highest-performing antenna in its size category. It is an ideal size with efficiency requirements for use in mobile phones, navigation systems, small portable GPS receivers like PDAs and PNDs, surveillance, timing, and other devices that need to access GPS signals.

The size of the W3011 is only 3.2mm (W) x 1.6mm (L) x 1.1mm (K), and it weighs just 0.033G, yet has an efficiency of 80% with an operating temperature of -40° to +85°C. It is RoHS compliant and compatible with lead-free, surface mount processes.

This antenna, the W3011, is smaller than any similar products on the market today. For example, a standard patch antenna is 440 times larger in volume (cubic mm), but the Pulse antenna is 20% more efficient than the patch antenna. It really provides a solution for designers who want to incorporate GPS signal capability into their products, but have limited room for an antenna.

See page 11 in this catalog and data sheet W3011 at:
http://www.pulseeng.com/file.php?2971



Excelsus Brand In-line DSL Filter is Compatible with VDSL2 to 30 DSL

This Excelsus brand DSL, Z-301LS, filter offers in-line filtering that is suited for telephone networks in Asia, Europe, and South America. Small and economical, the Z-301LS is compatible with VDSL2 and can filter frequencies up to 30 MHz. It improves the performance of DSL and HPN services by filtering all telephone sets, facsimile machines, answering machines, and other phone-line services through a single line while providing optimal voice-band performance.

The lightweight, 51.3 mm (L) x 19.6mm (W) x 19.0mm (H), Z-301LS is half the width of previous designs. It has good inter-modulation distortion performance which allows the maximum possible VDSL2 data rates. This slim filter is the most cost effective in-line design made to date. Its VDSL2 compatibility. and ability to handle frequencies up to 30 MHz make it an excellent in-line filter for new and emerging DSL technologies and markets.

The Z-301LS comes with a RJ11 connector and is easily installed. The filter is CE certified and RoHS compliant. Manufacturers and telephone companies can contact Pulse for samples and high-volume pricing. More details are on data sheet EX101 at: *(http://ww2.pulseeng.com/products/datasheets/EX101.pdf)* and see the Excelsus catalog section page 67.

FEATURED PRODUCTS

Twisted Pair to Coaxial Cable Balun Enables Signal Conversion to Support IPTV Deployments

The B-V175 twisted pair to coaxial balun allows DSL or HPN frequencies to be transmitted from twisted pair to coaxial mediums, and vice versa, supporting VDSL2 and HomePNA™ deployments. The balun is installed by the consumer (a first) with simple plug-in connections. It matches a 100 Ω twisted pair cable, with a balanced signal, to a 75 Ω coaxial cable, with an unbalanced signal, without degrading the signal.

Wiring is normally supplied to a house by a telephone company. A balun is a passive electronic device that converts between balanced and unbalanced electrical signals. With the Excelsus B-V175, the twisted pair telephone or VDSL2 connectors are plugged into one end of the balun and a coaxial cable that is connected to the other end of the balun is plugged into a set-top box. The signal from the phone/VDSL2 line is then able to be used to supply the set-top box and the TV with Internet protocol television (IPTV).

The B-V175 can pass frequencies from 25 kHz-30 MHz from twisted pair to coaxial cable with less than 1.5 dB insertion loss across the entire frequency band. The B-V175 also has a filtered phone port for POTS telephones.

This is the first balun product on the market to support VDSL2 and HomePNA. The B-V175 is the first product in Pulse's Excelsus brand twisted pair to coaxial balun family. The product family will include baluns that support the 12 MHz to 28 MHz and 36 MHz to 52 MHz HomePNA frequency bands along with custom frequency bands and applications. In addition, Pulse is currently developing baluns for applications such as CCTV, for security, and surveillance. See page 65 and data sheet EX100 at *http://ww2.pulseeng.com/products/datasheets/EX100.pdf.*

Pulse Introduces New Low Loss, High Saturation SMT Power Inductor

Pulse'S series, PG0702NL, of flat-coil SMT power inductors have a low DCR of 0.89 to 5.9 μΩ and a tight tolerance of ±6% for higher efficiency. The tight DCR tolerance improves current sensing control and the power supply's regulation and transient response.

Inductance values range from 0.40 mH to 3.0 mH with a peak saturation of 15 A to 45 A. Operating frequency is 100 kHz to 1 MHz at an operating temperature of -40 to +130°C with no thermal derating. These inductors are used to store energy and serve as filters in VRMs that are in notebooks, desktop computers, workstations, servers, as well as dc/dc applications, POL converters, and other high-density, high-power, high-ambient temperature applications.

This series uses a ferrite core material which has one tenth the core loss of iron powder or iron alloy core materials. The lower core loss of the ferrite material is optimized at frequencies above 500 kHz. The decrease in core loss significantly increases system efficiency 5-10%. This ferrite material is immune to thermal aging. As a result, the inductors are reliable at higher operating temperatures.

The PG0702NL series has a self-leaded, round, wire coil which lowers the overall cost of the finished product, providing a lower tolerance of the direct current resistance (DCR) to ± 6%. They have an industry standard 4040 footprint of 10.8mm x 9.5mm x 8mm and incorporate a three-pin design for improved mechanical stability. An unconnected third pin at the back of the p art distributes the weight and balance between the terminals during mechanical vibration.

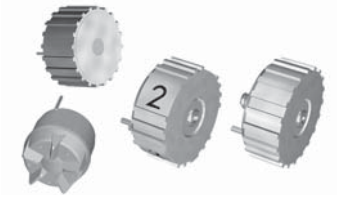
See page 41 and data sheet P667 at: *http://ww2.pulseeng.com/products/datasheets/P667.pdf*

MEDICAL/HEARING

Hearing Solutions

MedTech Group at Pulse is a global leader in the design of advanced miniature components and solutions for hearing instruments and advanced acoustics, as well as custom medical devices. As an advanced microacoustics and micromechanical component designer and manufacture r and as a B2B provider, the development process includes the Pulse MedTech group, the customer, the sales channels, which ensures customer and product quality and longevity.

VOLUME CONTROLS



Large Selection of Volume Controls

Digital and Analog					
Name	**ITE/BTE [1]**	**Digital/ Analog**	**On/Off Switch**	**Housing Diameter Ø**	**Knob Diameter Ø**
PJ 74	BTE	Analog	No		7.4 [0.291] (min)
PJ 77	ITE/BTE	Analog	No	5.0 [0.197]	5.8 [0.228] (min)
PJ 78	ITE/BTE	Analog	Yes	5.0 [0.197]	5.8 [0.228] (min)
PJ 84	ITE	Analog	No	2.3 [0.091]	2.3 [0.091]
PJ 85	ITE	Analog	No	2.55 [0.100]	2.55 [0.100]
PJ 87	ITE	Analog	No	3.8 [0.15]	3.8 [0.15]
PJ 88	ITE	Analog	Yes	3.8 [0.15]	3.8 [0.15]
PJ 185	ITE	Analog	Yes	2.54 [0.100]	2.54 [0.100]
DCU 193	ITE/BTE	Digital	No	3.8[0.15]	3.8-5.8 [0.15-0.228]
DCU 254	ITE	Digital	No	2.54[0.1]	2.54-3.3 [0.1-0.13]
DCU Scroller	ITE/BTE	Digital	No	3.8[0.15]	2.86 [0.113]

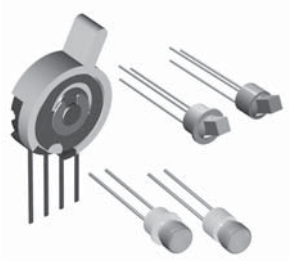
***1. ITE** = in the ear; **BTE** = behind the ear*

Volume control is always needed by the hard-of-hearing, when it's necessary to adjust sound levels in a given listening environment. With a wide choice of taper shapes and values, housing shapes and sizes, and colors, these products cover all hearing instrument applications.

There are two types of volume controls, digital and analog. The Pulse analog volume control has end-stop and optional on/off switches. End-users appreciate the ability to feel the end-stop, which defines the maximum or minimum gain setting of the hearing instrument. Pulse's digital volume control has a function that defines a gain setting for start-up of the hearing instrument. It also eliminates the need for a separate A/D converter and allows for remote control of the gain. Learn more on the Pulse web site at http://www.pulseeng.com/index.php?1231

MEDICAL/HEARING

SWITCHES



Array of Switches for Multiple Functions

Rotary, Push-button, Toggle Configurations

Name	ITE/BTE [1]	Function	Number of Positions	Number of Terminals	Housing Diameter Ø
SA 12	BTE	Rotary	2 or 3	5	7.0 [0.276]
SA 13	BTE	Rotary	3	7	7.0 [0.276]
SA 15	BTE	Rotary	4	7	7.0 [0.276]
SA 16	BTE	Rotary	2 or 3	5	5.4 [0.213]
SA 17	BTE	Rotary	3	7	5.4 [0.213]
SA 26	BTE	Rotary	2 or 3	5	5.4 [0.213]
SA 27	BTE	Rotary	3	7	5.4 [0.213]
PB 95	ITE	Push-button	2	2	2.54 [0.1]
PB 100	ITE	Push-button	2	2	1.9 [0.075]
MT 90	ITE	Push-button	3	3	2.54 [0.1]
SW 96	ITE	Toggle	2	3	2.54 [0.1]
SW 97	ITE	Toggle	2	3	2.54 [0.1]
SW 511	ITE	Toggle	3	5	3.8 [0.15]
SW 11-27	ITE	Toggle	2	2 or 3	2.54 [0.1]

***1. ITE** = in the ear; **BTE** = behind the ear*

Switches are used for a number of different functions in hearing instruments. The wide selection of various Pulse switches covers them all. For BTE devices, the traditional rotary switch gives the end-user the choice of selecting between the microphone or the telecoil as the input source. For both ITE and BTE devices, switches such as push-buttons are needed to change between the different programs in the hearing instrument. Toggle switches are used for on and off or for microphone/telecoil selection. Details at *http://www.pulseeng.com/index.php?1005*.

CONNECTOR SYSTEMS

Programmable Hearing Instrument Technology

MEDICAL/HEARING

CONNECTORS SYSTEMS *(continued)*

Programmable Hearing Instrument Technology *(continued)*

IEC Standardized Connecor Systems

Name	Description
Sockets CS 43/44/45	• Suitable for programming applications • Fits the Plugs CS 43/44/45 • Small mechanical dimensions • Flexible or rigid terminals • Flexible terminals with or without insulation • SMD version available • Color coding for accurate orientation
Plugs CS 43/44/45	• Suitable for programming applications • Fits the Sockets CS 43/44/45 • Flexible cable with molded strain relief • Angled or straight plugs • Color coding for accurate orientation
Cable Assemblies	• HI-Pro and NOAHlink Cables • Available with the CS 43/44/45 and mini-DIN plug • Customer specific electrical configurations available
CS 53/54	• For use with the Insert Socket Modules CS 73/74 • Eliminates the use of programming socket in the hearing instrument • Battery door or battery removal not necessary during programming • Connects to the CS 44 in Hi-Pro/NOAHlink Cable
CS 63/64	• For use with the Insert Socket Modules CS 73/74 • Standardized cable and clip module • Easily exchangeable, cost-effective flex strip • Hi-Pro/NOAHlink compatible
CS 73/74	• Replaceable snap-in module • For use with the CS 53/54 Flex Adaptor and CS 63/64 Flexible Interconnect System • Space-saving—no need for programming socket on faceplate • Fits in any ITE/ITC/CIC/BTE application • Heat resistant plastic prevents damage during soldering

Pulse is an integrated partner in the design and development of programmable hearing instrument technology, providing the necessary connector systems, that are IEC standardized. As a partner, Pulse provides the manufacturers of hearing instruments with connector systems and solutions. This has enabled several successful hearing instrument launches. And, customization is the norm. For detailed information go to *http://www.pulseeng.com/index.php?988.*

TRIMMERS

Trimmers Used for Programming Electroacoustic Properties

Initially, only used for analog hearing instruments, trimmers are now also used in digital hearing instruments, where programming is done by adjusting the trimmers. Thus, trimmers are used to set the electroacoustic properties of hearing devices. Pulse offers a variety of 2.54 mm [0.1"] trimmers. This makes it easy to change a typical component without changing the mechanical design of where it fits in the hearing device.

Compared to 2.54 mm versions, our 1.9 mm trimmers occupy 56% less space with the same performance.

For more informations, see: *http://www.pulseeng.com/index.php?1118.*

Trimmer Configurations

Name	Housing Diameter Ø	Housing Shape	Flange Shape
PJ 62	1.9 [0.075]	Circular	Circular
PJ 63	1.9 [0.075]	Circular	Circular
PJ 11	2.54 [0.100]	Square	Square
PJ 12	2.54 [0.100]	Circular	Circular
PJ 15	2.54 [0.100]	Circular	Circular
PJ 16	2.54 [0.100]	Circular	Circular
PJ 17	2.54 [0.100]	Circular	Circular
PJ 18	2.54 [0.100]	Circular	Circular
PJ 19	2.54 [0.100]	Circular	Circular
PJ 27	2.54 [0.100]	Circular	Narrow
PJ 30	3.40 [0.134] x 3.70 [0.146]	Rectangular	—

MEDICAL/HEARING

FACEPLATES

Faceplate Configurations

Name	Battery Size	On/Off Switch	Connector System
7 A	10A	Yes	No
10 IS	10A	No	CS 73/74
12 IS	312	No	CS 73/74
13 IS	13	No	CS 73/74
CU 10*	10A	Yes Push-button	CS 63/64 Flex Strip or CS 53/54 Flex Adaptor

***Includes** microphone*

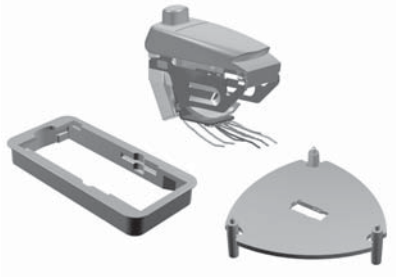
Main Mechanical Building Blocks in ITE Instruments

Faceplates are the main mechanical building blocks in ITE (In-The-Ear) hearing instruments.

- The selection of Pulse faceplates covers all three battery sizes: 10A, 312 and 13.
- For programmable systems, choose 10 IS, 12 IS, 13 IS or the fully modular CU 10.
- The CU is comprised of all mechanical functions required in an ITC (In-The-Canal) or even a CIC (Completely-In-the-Canal) hearing instrument. This includes push botton, the programming interface, battery door and springs, and also Pulse's 6074 or 6374 microphone.

For more informations go to the Pulse web site at:
http://www.pulseeng.com/index.php?

COMBINATION UNITS



Components for Integration

Name	Number of Terminals	Description
CU 10 3- or 4-Terminal Programming	3 or 4	• 10A battery compartment, battery door and springs, push-button and 3 terminal programming socket 6074 and 6374 series microphone • Programming interface for the CS 63/64 flex strip or CS 53/54 flex adaptor • Interfaces with HI circuit.
CU 10 Accessories	—	To support production, service, and repair, the Pulse CU 10 comes with the following accessories: • Battery door mounting/removal tool • Depth gauge/buffing and grinding protection cap

Time-To-Market Reduced with Combination Units

Using Pulse Combination Units enables hearing instrument designers to achieve quick time-to-market on new ITE (In-The-Ear) developments.

Pulse pioneered the first Combination Unit. As an example, the Pulse Combination Unit CU 10 is a unique integration of six hearing instrument components: a microphone, push-button, programming system, battery door for a 10 A battery, springs, and a flex-printed circuit board for circuit attachment.

The tight integration of components allows for push-button functionality on the top of the battery door. This is utilized to enable Complete-In-Canal (CIC) type hearing instruments with push-button operation.

On the Pule web site, visit:
http://www.pulseeng.com/index.php?1093.

ADVANCED ACOUSTICS PRODUCTS

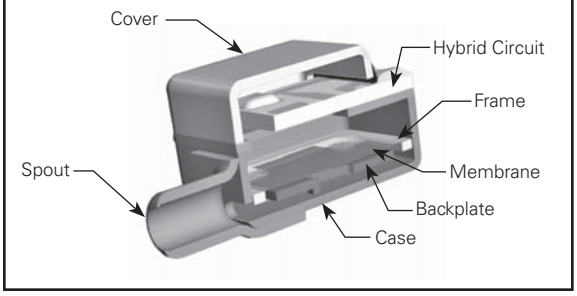
Microphones

Microphones convert audible signals into electrical signals. Our microphones excel by combining a very small component size with excellent sound, low power consumption, and very low voltage. Pulse uses "Electret-type" microphones.

A number of families exist that differ by form-factor and main features, sensitivity and noise. Within each series outlined in the table below, there are multiple variations, such as sensitivity, noise, position of the spout, frequency characteristics, response types, and EMI suppression. In addition, omnidirectional, directional, and combinations can be configured for both types.

Please refer to the Product Selector on the Pulse web site, *www.pulseeng.com/productselector*, to explore more options.

Microphone Construction



Microphones: Quick Survey

Series	Sensitivity @1 kHz	Noise dB SPL	L (mm) [inch] TYP	W (mm) [inch] TYP	H (mm) [inch] TYP	Volume (mm^3)
100	-33.0	23.0	5.54 [0.218]	3.95 [0.156]	2.23 [0.088]	48.8
6000	-37.0	26.5	3.58 [0.141]	3.58 [0.141]	1.32 [0.051]	16.9
6200	-34.0	24.5	3.58 [0.141]	3.58 [0.141]	1.32 [0.051]	16.9
6300 6400	-35.0	25.5	3.58 [0.141]	3.58 [0.141]	1.71 [0.067]	21.9
6600	-33.5	24.5	3.58 [0.141]	3.58 [0.141]	1.32 [0.051]	16.9
6900	-36.0	26.5	3.58 [0.141]	3.58 [0.141]	2.65 [0.104]	34.0
8000	-33.5	25.0	2.56 [0.101]	2.56 [0.101]	Ø	13.2
9000	-33.0	23.0	3 .58 [0.141)	3.58 [0.141]	2.23 [0.088]	28.6

Note: *The values in the table above serve as a reference. Data for individual devices may be different as given on data sheets.*

Image	Series
	100
	6000, 6200
	6400
	6600
	6900
	8000
	9000

ADVANCED ACOUSTICS PRODUCTS

Receivers

Receivers serve to transfer electrical signals into sound signals. Pulse receivers excel by combining a very small size with excellent audio qualities and low current consumption. We use "Balanced Armature" type receivers.

A number of families exist that differ by form factor and main characteristics, sensitivity and maximum output level.

In the families outlined in the table below, many variations exist, such as the position of the spout, sensitivity, maximum output level, impedance of the coil, frequency characteristic and response types.

Please refer to the Product Selector on the Pulse web site, *www.pulseeng.com/productselector,* to explore more options.

Receiver Construction

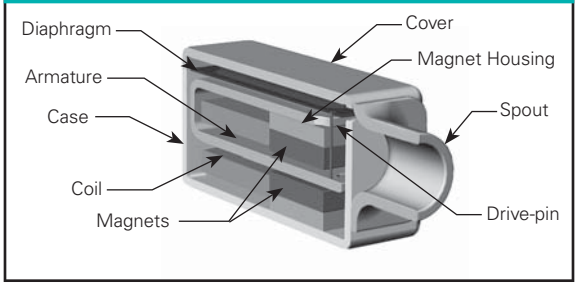


Image	Series
	1700, 1900
	1800, 2000
	2300
	2600, 2600U
	3100, 3200, 3500
	3300, 3700
	4400

Receivers: Quick Survey

Series	Sensitivity @1 kHz	Output Max	L (mm) [inch] TYP	W (mm) [inch] TYP	H (mm) [inch] TYP	Volume (mm 3)
1700	122	138	7.95 [0.313]	5.60 [0.220]	4.07 [0.160]	181.2
1800	124	140	9.45 [0.372]	7.13 [0.281]	4.10 [0.161]	276.3
1900	126	138	7.95 [0.313]	5.60 [0.220]	4.07 [0.160]	181.2
2000	124	140	9.45 [0.372]	7.13 [0.281]	4.10 [0.161]	276.3
2300	104	129	6.30 [0.248]	4.29 [0.169]	2.96 [0.117]	80.0
2600	103	126	5.25 [0.207]	3.05 [0.120]	2.55 [0.100]	40.8
2600U	106	127	5.25 [0.207]	3.05 [0.120]	2.55 [0.100]	40.8
3100	117	136	7.87 [0.310]	4.09 [0.161]	2.80 [0.110]	90.1
3200	115	125	7.87 [0.310]	4.09 [0.161]	2.80 [0.110]	90.1
3500	117	138	7.87 [0.310]	4.09 [0.161]	2.80 [0.110]	90.1
3300 [1]	120	140	7.87 [0.310]	5.60 [0.220]	4.09 [0.161]	180.3
3700 [1]	123	143	7.87 [0.310]	5.60 [0.220]	4.09 [0.161]	180.3
4400 [1]	96	122	5.00 [0.197]	2.70 [0.106]	1.96 [0.077]	26.5

***1. Dual** receiver*

***Note:** The values in the table above serve as a reference. Data for individual devices may be different as given on the data sheets.*

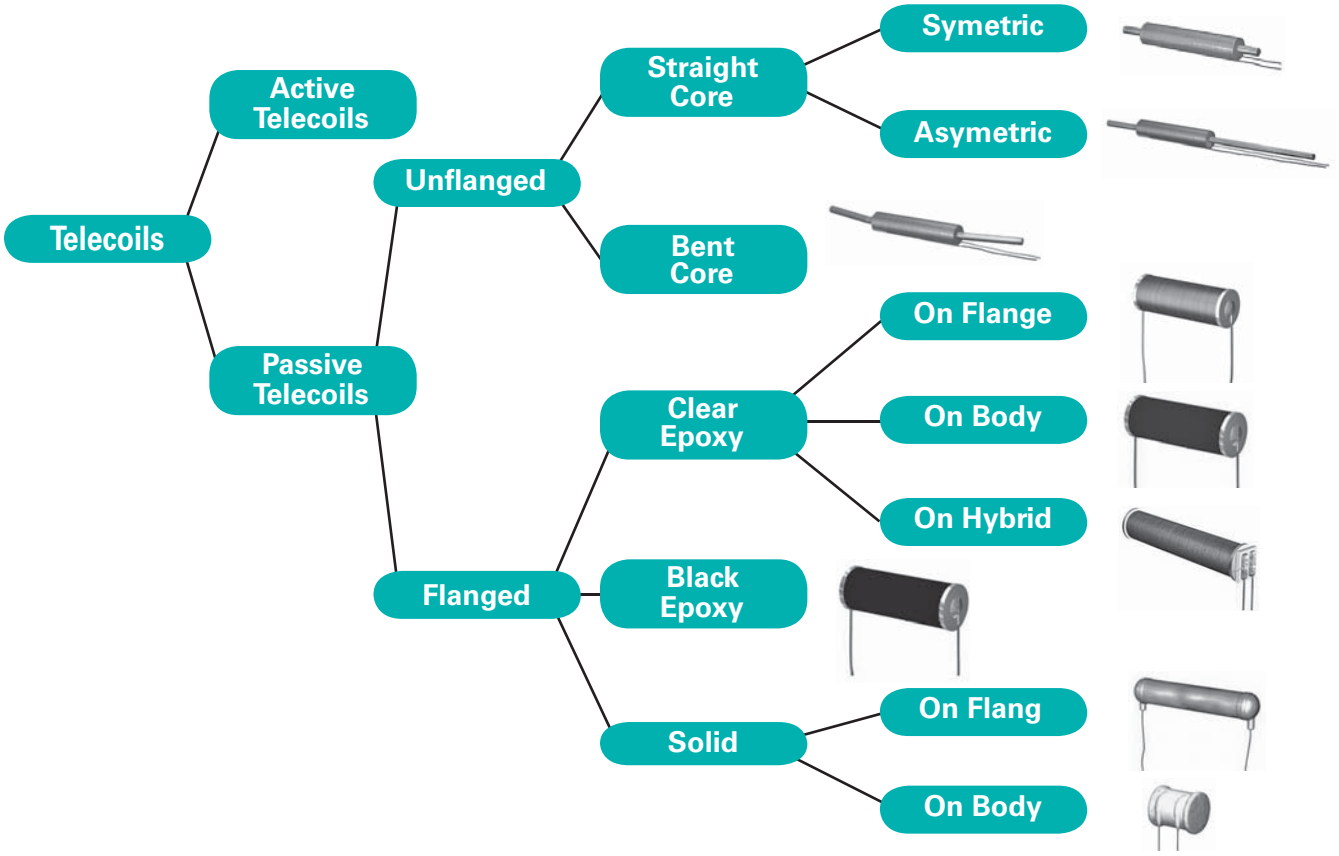
ADVANCED ACOUSTICS PRODUCTS

Telecoils

Telecoils pick up magnetic signals from sources such as loop systems and telephones. We have passive telecoils and active telecoils that have a built-in, optimized pre-amplifier.

There are many form factors and wiring options. The table and flow-chart below are only a short summary. Please refer to the Product Selector on the Pulse web site to check the various options.

Telecoil Series



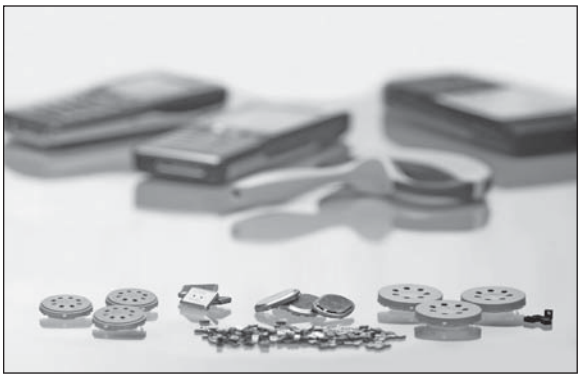
Telecoils: Short Summary

Family	Sensitivity @1 kHz	Equiv Noise dB SPL	L (mm) [inch] MAX	W (mm) [inch] MAX	H (mm) [inch] MAX	Volume (mm^3)
Active						
TA20AE01	-49.5	30.0	4.80 [0.189]	2.34 [0.092]	2.89 [0.114]	32.5
TA32CE21	-54.5	34.5	4.90 [0.193]	1.90 [0.075]	2.80 [0.110]	26.1
Family	**Sensitivity @1 kHz**	**Impedance Ω**	**L (mm) [inch] MAX**	**W (mm) [inch] MAX**	**H (mm) [inch] MAX**	**Volume (mm^3)**
Passive						
T22AC01	-53.9	3350	6.35 [0.250]	2.24 [0.088]	Ø	25.0
T41AA27	-57.8	2740	4.00 [0.157]	3.00 [0.118]	Ø	28.3

Note: *The values in the above table serve as a reference. Data of individual devices may be different as given in the datasheets. A full list of telecoils is available on the Pulse web site at:*

www.pulseeng.com/medtechtelecoils

MICROACOUSTICS



The combination of a very high degree of audio knowledge, application engineering, and mass production capabilities make the Pulse HVT (High Volume Transducers) group innovative leaders in the field of microacoustics. With exciting new product launches every year, a comprehensive one-stop-shop product portfolio is a result of on-going research and development and the push for ever-smaller components of the highest quality and performance.

After some years of work with a "platform concept," the HVT group is now utilizing a production line platform and proven product lines with easy, cost-effective, component and production customization that decreases time-to-market.

The "platform concept" allows a new strategy for handling customer design requests for different applications and/or small add-on product features. The strategy adds customer requirements to standard, tested components and makes the changes necessary to the production line to accommodate a design. The platform concept enables Pulse to accommodate most customer design requests to full mass production lines within few weeks.

Go to the Pulse web site, *http://www.pulseeng.com/index.php?1102*, for more information about HVTs and to review data sheets.

RECEIVERS

Pulse has a broad range of HVT receivers consisting of multiple high-quality receivers designed to meet the needs of portable mobile terminals and other handheld devices, such as PDAs.

Part Name	711ST Receiver	T8xx Receivers	T601 Receiver	812ST
Part Number	43001-3014330	43005-xxxxxxx	43006-01133210	42019-3006340
Sensitivityw	99 dB SPL/1 mW ±3 dB @ 1 kHz DRP Type 3.2 LL	25 dB ±1.5 dB @ 1 kHz	21 dB ±2 dB @ 1kHz	108 dB SPL/ 1 mW ±w3 dB @ 1 kHz DRP Type 3.2 LL
Resonance Frequency	380 Hz	—	345 Hz	260 Hz
Impedance	29 Ω ±10%	300 Ω ±10 %	140 Ω ±10 %	29 Ω ±10 %
Size	7 * 11 * 2.15 mm	Ø31 * 12mm	Ø21 * 10mm	8 * 12 * 2 mm

MICROACOUSTICS

LOUDSPEAKERS

The scope of these products are a range of high-quality loudspeakers for office hands-free applications and multimedia in handheld devices. Speakers include the rectangular LS1115, which is based on a very flexible platform for a high degree of customization and the more traditional round speakers like the low-cost LS13.

This loudspeaker portfolio has a very high number of achievable customizations. Even integration into closed modules is possible. Add-ons, like gaskets, wires, flexprint, and the like, are yet another capability. Pulse has successfully accomplished integrating loudspeaker function into modules when brought into the early stages of product development.

Part Name	LS13 Speaker	MX16SL	LS1115SPG	LS1115SP2G	LS1115FLSG	LS1115 SF	LS812
Part Number	43012-3010338	44001-3019614	43013-3020842	43013-3020843	43013-3016604	43013-3019999	43019-3020836
Sensitivity	72 dB SPL/W/m ±2 dB @ 2 kHz	73.5 dB/W/m	76 dB SPL/W/m ±1 2 dB @ 2 kHz	75 dB SPL/W/m ± dB @ 2 kHz	72 dB SPL/W/m ±2 dB @ 2 kHz	73 dB SPL/W/m ±2 dB @ 1 kHz	69 dB SPL/W/m ±2 dB @ 1 kHz
Resonance Frequency	800 Hz	600 Hz	925 Hz	950 Hz	900 Hz	500 Hz	600 Hz
Impedance	7.2 Ω ±10%	7.5 Ω	7.5Ω ±10 %	7.5 Ω ±10 %	7.5 Ω ±10 %	8 Ω ±10 %	7 Ω ±10%
Size	Ø13x3.15mm	Ø16 * 3mm	11x15x3.27mm	11x15x3.97mm	11x15x3.x 07mm	11 * 15 * 3.5 mm	8 * 12 * 2.5 mm

NEW PRODUCTS READY FOR SAMPLES 2009

A key vision for Pulse is to continuously introduce new products to its already comprehensive HVT portfolio. In line with this, 2009 looks to be an interesting year for HVT with many exciting new product launches. Below is a snapshot of some of the most facinating parts that the HVT group plans to release during 2009.

Part Name	LS1220	LS913	LS615	812ST HAC	711ST HAC	615ST
Description	12 * 20 * 3mm speaker	9.6 * 13.6 * 2.9mm speaker	6 * 15 * 3 mm speaker	8 * 12 * 2 mm reciever with improved HAC performance	7 * 11 * 2.15 mm receiver with improved HAC performance	6 * 15 * 2.5 mm receiver

ANTENNAS

A wide array of Pulse antennas provide solutions to GSM, CDMA, WCDMA, WiMax, WiFi TM, GPS, ZigBeeTM, Bluetooth®, UWB, ISM, DVB-H, MediaFLO™, DMB-S, Satellite Radios, DECT and other custom applications.

Please pick from the charts at htttp://www.pulseeng.com/antennas/applications. Click on a part number to access the corresponding data sheet. Contact Pulse for more information on products that are not covered in this catalog.

ANTENNAS FOR MOBILE PHONES

Solutions for Mobile Phone Antennas

Pulse´s customized antennas for mobile phones are based on a thorough knowledge of the design of modern handsets, the antenna requirements, and the challenges of devices functioning in multi-radio environments.

Pulse has extensive experience in main antenna design and utilizes technologies such as sheet metals, flex radiators and ceramic solutions. Pulse products offer optimal and well-proven solutions for each application and form factor.

The product range for mobile phones includes main and complementary antennas and integrated antenna modules, including fully tested speaker/antenna modules optimized for audio and RF performance.

ANTENNAS FOR WIRELESS DEVICES

Antennas for Wireless Access Point

Pulse's new line of wireless access point antennas offers flexible and economical solutions for wireless device OEMs. These antennas offer superior transmission and reception between wireless access points. They are compatible w ith IEEE 802.11a/b/g/n, Bluetooth and ZigBee applications, as well as other products that utilize ISM frequency bands. All wireless access point antennas are RoHS compliant. For high-volume orders, Pulse can custom design antennas for OEMs. This includes alternative frequencies and a variety of cables/connectors for antenna assemblies. Pulse also manufactures build-to-print internal antennas that feature a variety of stamped metal and PCB configurations.

Single-Band [1, 2]

Part Number	Frequency	Max Gain (dBi)	Mechanical Length [3]	Application/Standard
W1063	900MHz	3.0	6.65 /169	ISM 868 & 915MHz
W1038ES	900MHz	3.0	6.65 /169	ISM 868 & 915MHz
W1010 [4]	2.4GHz	2.0	3.3/83	802.11b/g/n, Bluetooth, ZigBee
W1030	2.4 GHz	2.0	3.25/82.5	802.11b/g/n, Bluetooth, ZigBee
W1034	2.4 GHz	2.0	4.21/107	802.11b/g/n, Bluetooth, ZigBee
W1037	2.4 GHz	3.2	6.65/169	802.11b/g/n, Bluetooth, ZigBee
W1038	2.4 GHz	4.9	6.65/169	802.11b/g/n, Bluetooth, ZigBee
W1027	2.4 GHz	3.2	4.88/124	802.11b/g/n, Bluetooth, ZigBee
SB24003	2.4 GHz	2.14	2.5/132	802.11b/g/n, Bluetooth, ZigBee

1. ***Antennas*** *come standard with R-SMA male connectors, unless otherwise specified.*
2. ***These*** *part numbers are lead-free and RoHS compliant. No additional suffix or identifier is required.*
3. ***Inches****/millimeters*
4. ***SMA*** *male connector*

Dual-Band [1, 2]

Part Number	Frequency	Max Gain (dBi)	Mechanical Length [3]	Application/Standard
W1043	2.4 & 5.0	2.0	4.59/117	802.11a/b/g/n, Bluetooth, ZigBee
W1045	2.4 & 5.0	2.0	4.13/105	802.11a/b/g/n, Bluetooth, ZigBee
W1028	5.15 & 5.85	2.0	4.88/124	802.11a/b/g/n, ISM 5.8GHz
R380.500.314	2.4 & 4.9 & 5.8	1.6/5	7.15/1822	ISM 5.8 GHz, Public Safety, 4.9 GHz, 802.11b/g/n, Bluetooth, ZigBee

1. ***Antennas*** *come standard with R-SMA male connectors, unless otherwise specified.*
2. ***These*** *part numbers are lead-free and RoHS compliant. No additional suffix or identifier is required.*
3. ***Inches****/millimeters*

**Antennas for Wireless Access Point continued on next page*

ANTENNAS

ANTENNAS FOR WIRELESS DEVICES *(continued)*

Antennas for Wireless Access Point *(continued)*

Cable Assembly [1]

Part Number	VSWR 2.4 GHz/6 GHz	Insertion Loss 2.4 GHz/6 GHz	Cable Length [2]	Connector Types
W9003	1.2/1.3	0.4dB/0.8 dB	3/76	R-SMA Female to I-PEX
W9006M	1.1/1.3	0.6dB/1.1 dB	6/150	SMA Female to I-PEX
W9009	1.2/1.4	0.8dB/1.4 dB	9/229	R-SMA Female to I-PEX
W9011M	1.2/1.2	0.9dB/1.8 dB	11/280	SMA Female to I-PEX
W9063B170	1.1/1.9	1.3dB/2.4 dB	17/431	I-PEX to R-TNC Female

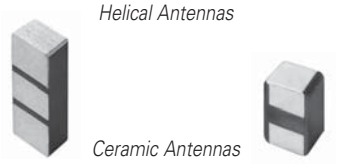
1. ***These*** *part numbers are lead-free and RoHS compliant. No additional suffix or identifier is required.*
2. ***Inches****/millimeters*

Single-Band Antenna with I-PEX Cable Assembly [1, 2]

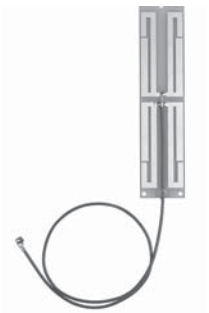
Part Number [4]	Frequency	Mechanical Length [3]	Cable Length [3]	Application Standard
W1049B030	2.4GHz	3.25/82.5	3/76	802.11b/g/n, Bluetooth, ZigBee
W1049B050	2.4GHz	3.25/82.5	5/127	802.11b/g/n, Bluetooth, ZigBee
W1049B070	2.4GHz	3.25/82.5	7/178	802.11b/g/n, Bluetooth, ZigBee
W1049B090	2.4GHz	3.25/82.5	9/229	802.11b/g/n, Bluetooth, ZigBee
W1049B120	2.4GHz	3.25/82.5	12/305	802.11b/g/n, Bluetooth, ZigBee

1. ***Antennas*** *DO NOT come with bushing holders. Order separately if required. Part Number: P4208-02A202*
2. ***These*** *part numbers are lead-free and RoHS compliant. No additional suffix or identifier is required.*
3. ***Inches****/millimeters*
4. ***Max*** *Gain (2 dBi)*

Helical Antennas



Ceramic Antennas



PCB Antenna

Internal and Surface Mount Antenna Solutions

Pulse offers a wide range of standardized internal and surface mount antennas (SMD) for wireless device applications. Pulse ceramic technology results in robust antenna designs that have outstanding performance. These antennas have an inherent immunity to surrounding antenna signals and hand-effect, which makes them exceptionally suitable solutions for small hand-held devices with multiple antennas. Pulse helical antenna technology provides high-performance antennas in a small package that can be easily deployed. These ceramic and helical antennas require minimal ground plane removal for operation, which means saved board space and economical implementation. The SMD compatibility of Pulse's antenna products makes them simple and easy to mount.

Surface Mount Antennas for Wireless Devic es [1, 2] *(continued)*

Application/ Part Number	Antenna Size [4]	Mount Type [3] (mm)	Frequency Range (MHz)	RHCP Gain [5] (dBic)	Max Gain (dBi)	Efficiency (%/dB)	Return Loss (dB MIN)
WLAN Dualband Ceramic **W3006**	10.0x3.2x1.5	SMD, GC area 11.60x6.00	2400–2483.5 5150–5850	—	3,2 (peak) 2,7 (band edges) 4,2 (peak) 3,0 (band edges)	70/-1,55 (peak) 65/-1,85 (band edges) 80/-0,95 (peak) 70/-1,55 (band edges)	-8 -10
Bluetooth Ceramic **W3008**	3.2x1.6x1.1	SMD, GC area 4.00x4.25	2400–2483.5	—	1,7 (peak) 0,7 (band edges)	70/-1,6 (peak) 55/-2,6 (band edges)	-8
Bluetooth/ WLAN/WiFi Ceramic **W3008c**	3.2x1.6x1.1	SMD, GC area 4.00x6.25	2400–2483.5	—	2,2 (peak) 1,9 (band edges)	75/-1,3 (peak) 70/-1,6 (band edges)	-11
GPS Ceramic **W3009**	10.0x3.2x4.0	SMD, GC area 10.80x6.25	1575.42 ±10	0.7 (peak) 0.3 (band edges)	3 (peak) 2,5 (band edges)	80/-1,25 (peak) 70/-1,25 (band edges)	-10
GPS Ceramic **W3010**	10.0x3.2x2.0	SMD, GC area 10.80x6.25	1575.42 ±10	-0,2 (peak) - 0,7 (band edges)	2,8 (peak) 2,3 (band edges)	75/-1,25 (peawk) 70/-1,55 (band edges)	-18
GPS Ceramic **/A**	3.2x1.6x1.1	SMD 4x4.25/6.25	1575.42 ±10	0.85 (peak) 0.5 (band edges)	3.4 (peak) 3.0 (band edges)	85/-0.7 (peak) 80/-1.0 (band edges)	-12

1. ***All*** *antennas are RoHS Compliant*
2. ***Impedance*** *50 Ω, operating temperature -40°C to +85°C*
3. ***GC*** *= Ground Clearance, mm*
4. ***Millimeters*** *(mm)*
5. ***—*** *= NA*

**SMD Antennas for Wireless Devices" chart continued on next page ➔*

ANTENNAS

ANTENNAS FOR WIRELESS DEVICES *(continued)*

Internal and Surface Mount Antenna Solutions *(continued)*

Surface Mount Antennas for Wireless Devices [1, 2] *(continued)*

Application/ Part Number	Antenna Size [4]	Mount Type [3] (mm)	Frequency Range (MHz)	RHCP Gain [5] (dBic)	Max Gain (dBi)	Efficiency (%/dB)	Return Loss (dB MIN)
ISM 900 Ceramic **W3012**	10x3.2x4	SMD GC area 10.80x8.25	868-870	—	2 (peak) 0.5 (band edges)	70/- 1.55 (peak) 50/- 3 (band edges)	-6
ISM 868 Ceramic **W3013**	10x3.2x4	SMD GC area 10.80x8.25	868-870	—	1.4 (peak) 1.4 (band edges)	65/- 1.9 (peak) 65/- 1.9 (band edges)	-10
Satellite Radio Ceramic **W3017**	3.2x1.6x1.1	SMD, GC area 4.00x4.25	2320–2345	- 0,1 (peak) - 0.6 (band edges)	2,7 (peak) 2,4 (band edges)	80/-1,0 (peak) 75/-1,2 (band edges)	-12
DMB-S Ceramic **W3018**	3.2x1.6x1.1	SMD, GC area 4.00x4.25	2605–2655	—	3 (peak) 2,5 (band edges)	85/-0,7 (peak) 80 /-1 (band edges)	-10
WiMAX Ceramic **W3020**	3.2x1.6x1.1	SMD, GC area 4.00x6.25	2500–2690	—	2,8 (peak) 1 (band edges)	80/-1 (peak) 60/-2,25 (band edges)	- 5.5
DECT Ceramic **W3022**	10x3.2x2	SMD GC area 10.60x7.25	1800-1930	—	2.5 (peak) 2 (band edges)	80/-1 (peak) 70/-1.55 (band edges)	-12
MediaFLO Ceramic **W3024**	10x3.2x4	SMD, GC area 10.60x10.25	716–722	—	2 (peak) 1,5 (band edges)	75/1,25 (peak) 70 /-1,55 (band edges)	-8
1800 RX Diversity Ceramic **W3028**	10x3.2x2	SMD, GC area 10.60x6.25	1805–1880	—	2.5 (peak) 2 (band edges)	80/-1 (peak) 70/-1.55 band edges)	-9
1900 RX Diversity Ceramic **W3029**	10x3.2x2	SMD, GC area 10.60x6.25	1930–1990	—	2 (peak) 1.3 (band edges)	80 /-1 (peak) 70/-1.55 band edges)	-10
2100 RX Diversity Ceramic **W3030**	10x3.2x2	SMD, GC area 10.60x6.25	2110–2170	—	2 (peak) 1.5 (band edges)	80/-1 (peak) 70/-1.55 band edges)	-10
850 RX Diversity Ceramic **W3031**	10x3.2x4	SMD, GC area 10.60x8.25	869–894	—	2.3 (peak) 0.2 (band edges)	75 /-1.25 (peak) 45/-3.5 band edges)	-5.5
900 RX Diversity Ceramic **W3032**	10x 3.2x4	SMD, GC area 10.60x8.25	925–960	—	2 (peak) 0 (band edges)	65/-1.9 (peak) 45/-3.5 band edges)	-5
850 RX Diversity Helical Horizontal **W3117**	12.4x8x2.5	SMD, GC area 8.00x40.00	869–894	—	0 (peak) -1.3 (band edges)	55/-2.6 (peak) 40/-4 (band edges)	-9
850 RX Diversity Helical Vertical **W3118A**	2.5x8x8	SMD, GC area 6.00x11.00	869–894	—	0 (peak) 1.4 (band edges)	52/- 2.9 (peak) 38/-4.2 (band edges)	-9
WiFi Helical **W3108**	5.0x2.5x5.5	SMD, GC area 7.50x5.50	2400–2483.5	—	1.5	50/-3	-8
GPS Helical **W3110**	5.0x2.5x5.5	SMD, GC area 7.50x5.50	1575.42 ±10	-2,1 (peak) -2,4 (band edges)	1,3 (peak) 0,7 (band edges)	47/-3,3 (peak) 43/-3,7 (band edges)	-16
ISM Helical **W3112A**	2.5x8.0x8.0	SMD, GC area 6.00x11.00	902–928	—	0.9 (peak) -0.3 (band edges)	67/-1.7 (peak) 50/-3 (band edges)	-10
ISM Helical **W3113**	12.4x8.0x2.5	SMD, GC area 8.00x40.00	902–928	—	0.8 (peak) -0.3 (band edges)	66 /-1.8 (peak) 51/-2.9(band edges)	-10

1. ***All*** *antennas are RoHS Compliant*
2. ***Impedance*** *50 Ω, operating temperature -40°C to +85°C*
3. ***GC*** *= Ground Clearance, mm*
4. ***Millimeters*** *(mm)*
5. *— = NA*

"SMD Antennas for Wireless Devices" continued on next page ➔

ANTENNAS

ANTENNAS FOR WIRELESS DEVICES *(continued)*

Internal and Surface Mount Antenna Solutions *(continued)*

Surface Mount Antennas for Wireless Devices [1, 2] *(continued)*

Application/ Part Number	Antenna Size [4]	Mount Type [3] (mm)	Frequency Range (MHz)	RHCP Gain [5] (dBic)	Max Gain (dBi)	Efficiency (%/dB)	Return Loss (dB MIN)
DVB-H EU Planar **W3510**	45x6.6x5	Clearance to ground 5 mm	470–750	—	-9 @ 470 -6 @ 750	—	-3
DVB-H EU External **W3520**	50.5x10.5x3.0	—	470–750	—	-4.5 @ 470 -3.5 @ 750	—	-3
DECT Ceramic **W3022**	10x3.2x2	GC area 10.60x7.25	1800–1930	—	2.5 (peak) 2 (band edges)	80/-1 (peak) 70/-1.55 (band edges)	-12
WCDMA Ceramic **W3040**	10x3.2x2	SMD, GC area 10.60x8.25	1920–2170	—	2.3 (peak) 1.5 (band edges)	80/-1 (peak) 70/-1.55 (band edges)	-10
4-band GSM & **W-CDMA 2100** **W3530**	40x8 x6	—	824-894 880-960 1710-18w80 1850-1990 1920-1980 2110-2170	—	—	-1.0 – -2.5 -1.0 – -2.5 -2.0 – -3.5 -2.0 – -3.5 -3.0 – -3.5 -2.5 – -3.5	-6

1. ***All*** *antennas are RoHS Compliant*
2. ***Impedance*** *50 Ω, operating temperature -40°C to +85°C*
3. ***GC*** *= Ground Clearance, mm*
4. ***Millimeters*** *(mm)*
5. ***—*** *= NA*

Printed Circuit Board Antenna Solutions

Part Number [1]	Application/ Standard	Frequency	Mechanical Dimensions (in/mm)	Cable Length (mm) /Connector Type	Gain [2] (dBi)	Efficiency (%/B)
W3501	GSM/GPRS	850/900/1800/1900	0.98 x 3.43 x .008 25 x 87 x 0.2	56/ I-PEX Connector	3.75 to 1.5	50 to 55 %
W3502	GSM/GPRS	850/900/1800/1901	1.69 x 0.67 x 0.02 43 x 17 x 0.5	27.5/ I-PEX Connector	2 to 1	40 to 60 %
W3525Bxxx	WiFi	2.4 GHz	0.42 x 1.88 x .031 10.7 x 47.7 x 0.8	Various cable lenghts/ I-PEX Connector	2	70%
W3513	WiFi	2.4 & 5 GHz	0.63 x 2.76 x 0.04 16 x 70 x 0.9	250/ I-PEXConnector	2	50 to 72 %

1. ***These*** *part numbers are lead-free and RoHS compliant. No additional suffix or identifier is required.*
2. ***2 dBi*** *max*

Alternative Wireless Solutions

Pulse offers a wide variety of alternative wireless solutions for applications including machine-to-machine, public safety, hand-held radios, and telematics.

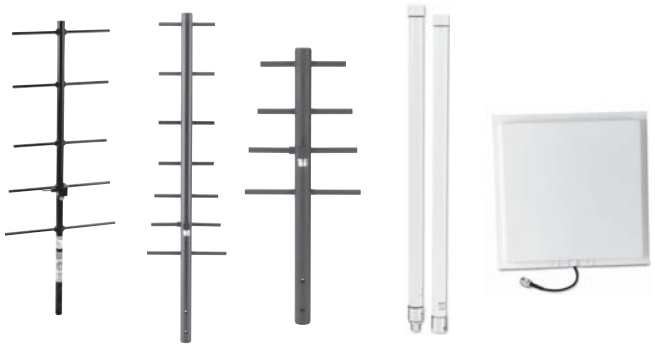
ANTENNAS

ANTENNAS FOR WIRELESS DEVICES *(continued)*

Alternative Wireless Solutions *(continued)*

Alternative						
Part Number	**Frequency (MHz)**	**Gain (dBi)**	**Description**	**Length (in/mm)**	**Coax [1]**	**Connector [1]**
R380.500.314	2400-2500/4900-5900	1.6/5	Swivel Mount Dipole	7.15/1822 2	—	RPTNC
SB450FME3	450-470	2.14	Stealth Blade	10/254	3' RG-316	FME
SB8003	806-896	2.14	Stealth Blade	2.5/132	3 ' RG-174	No Conn
SB9003	890-960	2.14	Stealth Blade	2.5/132	3' RG-174	No Conn
SPDA24850/1900	824-894/1850-1990	—	Center Fed Dipole, Articulating Right Angle	7.5/191	—	SMA
SPWB23150	136-174	—	Helical, Standard, ¼ Wave	6.75/171	—	SMA F T3
SPWB23425	380-470	—	Helical, Standard, ¼ Wave	6.5/165	—	SMA F T3
SPWH23832	782-882	—	Whip, Standard, ¼ Wave	3/76	—	SMA F T3
SPWH23918	863-973	—	Whip, Standard, ¼ Wave	3/76	—	SMA F T3
SPHS24832	800-864	—	Helical, Standard, ¼ Wave	3/76	—	SMA F T2

***1. UHF** and VHF portable/terminal antennas also available.*



Infrastructure Solutions

Single-Band Infrastructure Antennas						
Part Number	**Frequency (MHz)**	**Gain (dBi)**	**Description**	**Length (in/mm)**	**Coax [1]**	**Connector [1]**
YA5900W	890-960	9 dBd/11 dBi	Fully welded seven element Yagi	29.5/749.3	—	N Female
YA6900W	890 - 960	6 dBd/8 dBi	Fully welded four element Yagi	17.5/444.5	—	N Female
OC806/2170TNC	806 - 960/1710 - 2170	1.5/2.5	Pentaband Omni Ceiling	7 dia/177 dia	8" RG-405	TNC Male
LP806/2170TNC	806 - 960/1710 - 2170	0/1.5	Pentaband Low Profile	5.75 dia/146 dia	15' LMR-195	TNC Male
RO806/2170TNC	806 - 960/1710 - 2170	4	Pentaband Radome Omni	16.5/419	—	TNC Male
RO2408NF	2400 - 2500	8	Radome Omni	20/508	—	N Female
RO2408NM	2400 - 2500	8	Radome Omni	21/508	—	N Male
RO4910NF	4940 - 4990	10	Radome Omni	18v457	—	N Female
RO4910NM	4940 - 4990	10	Radome Omni	18/457	—	N Male
RO5810NM	5725 - 5875	10	Radome Omni	16.5/419	—	N Male
RO5210NF	5150 - 5350	10	Radome Omni	16.5v419	—	N Female
RO5210NM	5150 - 5350	10	Radome Omni	16.5/419	—	N Male
RO5810NF	5725 - 5875	10	Radome Omni	16.5/419	—	N Female
R380.500.218	2400 - 2500	14	Planar Array - Horizontal Polarization	12/304.8	8" Low-loss SHF-142	N Female
R380.700.203	5725 - 5825	20	Planar Array - Vertical Polarization	12/304.8	8" Low-loss SHF-142	N Female

***1. Variety** of Coax availble. Order separately.*

ANTENNAS

ANTENNAS FOR AUTOMOTIVE APPLICATIONS

Pulse's antenna product line offers the highest quality, most reliable antennas in the automotive industry. The Pulse antennas combine premium materials with high efficiency designs, that deliver antennas with superior mechanical durability and electrical performance. UV, chemical and impact resistant Makroblend® bases help ensure the highest performance for all your mobile applications. "Traditional-style" mobile antennas are available from 27 MHz to 5.9 GHz, as well as many "multi-band" designs. Whether you need communication interoperability, radio communication, data transmission, increased cellular/PCS coverage or GPS tracking, these antennas are the solution.

Vehicular Mount Single-Band Solutions

Single-Band [1]

Part Number	Frequency (MHz)	Gain (dBi)	Description	Length (in/mm)	Coax [2]	Connector [3]
NMOWB150C	135-174	2	NMO Wide Band [4]	51.75 /1314	—	—
NMO450C	450-750	5.6	NMO UHF Field Tunable [4]	33/838	—	—
LP800NMO	806-960	2	NMO Low Profile [4]	1.25/32	—	—
NMOQW900	890-970	2	NMO 1/4 Wave [4]	3/76	—	—
GPSGM	1575.4	5 dBic	GPS Glass Mount	1.7/43	RG-174	—
NMO5E2400B	2400-2500	5	NMO Whip [4]	8.54/ 217	—	—
NMO4E4900B	4900-5350	4	NMO Whip [4]	4.5 /114.30	—	—

1. ***Antennas*** *available in multiple frequencies and mounting options.*
2. ***Variety*** *of coax available. Order separately.*
3. ***Variety*** *of connectors available. Order separately.*
4. ***All*** *NMO antennas require an NMO mount for installation.*

Vehicular Mount Multi-Band Solutions

Multi-Band [1]

Part Number	Frequency (MHz)	Gain (dBi)	Description	Length (in/mm)	Coax [2]	Connector [3]
NMO150/450/800	150-165/450-470/806-940	-7/0/1	NMO Tri Band [4]	16.5/419	—	—
MMC/P3EFME	824-960/1850-1990	4/4	Dual Band Magnetic Mount	5/127	RG-58 Low Loss Dual Shield	FME
NMOC/P3E	824-960/1850-1990	4/4	Dual Band NMO Mount [4]	4.7/119	—	—
GPSCPOO	824-960/1710-1990/1575.42	2/2/4.5 dBic	Direct Feed GPS Tri Band	7.6/193	RG-174	TNC/SMA
GPSCWCPOO	824-960/1710-1990/1575.42	2/1.5/4.5 dBic	Roof Mount GPS Tri Band	3.9/99	RG-174	TNC/SMA

1. ***Antennas*** *available in multiple frequencies and mounting options.*
2. ***Variety*** *of coax available. Order separately.*
3. ***Variety*** *of connectors available. Order separately.*
4. ***All*** *NMO antennas require an NMO mount for installation.*

ANTENNAS

ANTENNAS FOR AUTOMOTIVE APPLICATIONS *(continued)*

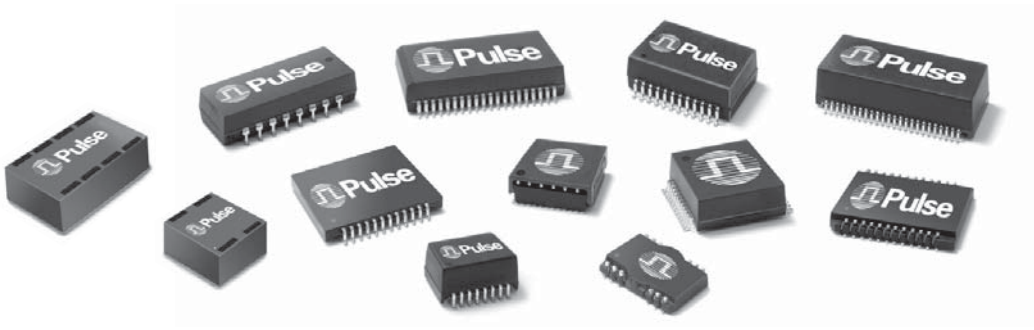
NMO Mounting Kits

NMO Mounting Kits [1]

Part Number	Description	Cable Length	Coax Type	Connector
NMOKHFUD	NMO Low/High Frequency Mount	17/5.18	RG-58/U Dual Shield, Low Loss Cablew	NO CONN
NMOKHFUDTHK	NMO Low/High Frequency Thick Mount	17/5.18	RG-58/U Dual Shield, Low Loss Cable	NO CONN
NMOMMRNOCONN	NMO Low/High Frequency Magnetic Mount	12/3.66	RG-58 A/U cable	NO CONN

***1. All** NMO mounting kits are available with a variety of cables and connectors.*

LAN DISCRETE TRANSFORMER MODULES



Pulse Discrete Transformer Modules

Pulse offers the most comprehensive line of discrete LAN transformer modules available to the OEM worldwide. Modules 10/100/1000BASE-T are optimized for all major LAN transceivers. All modules provide electrical circuit isolation that meets IEEE 802.3, while maintaining signal integrity needed for the most demanding applications. 10G as well as PoE+ solutions are available. Pulse manufactures the broadest selection of packaging options, from through hole (THT) SIL devices to the smallest available surface mount (SMT) solution at .078" (1.98 mm). For RoHS compliant products, refer to individual data sheets for details.

NOTE: This catalog section serves as an overview to the LAN discrete modules. For detailed data sheets and a complete list of LAN discrete modules, go to the Pulse website home page and click the right-hand navigation link that says "DATA SHEETS."

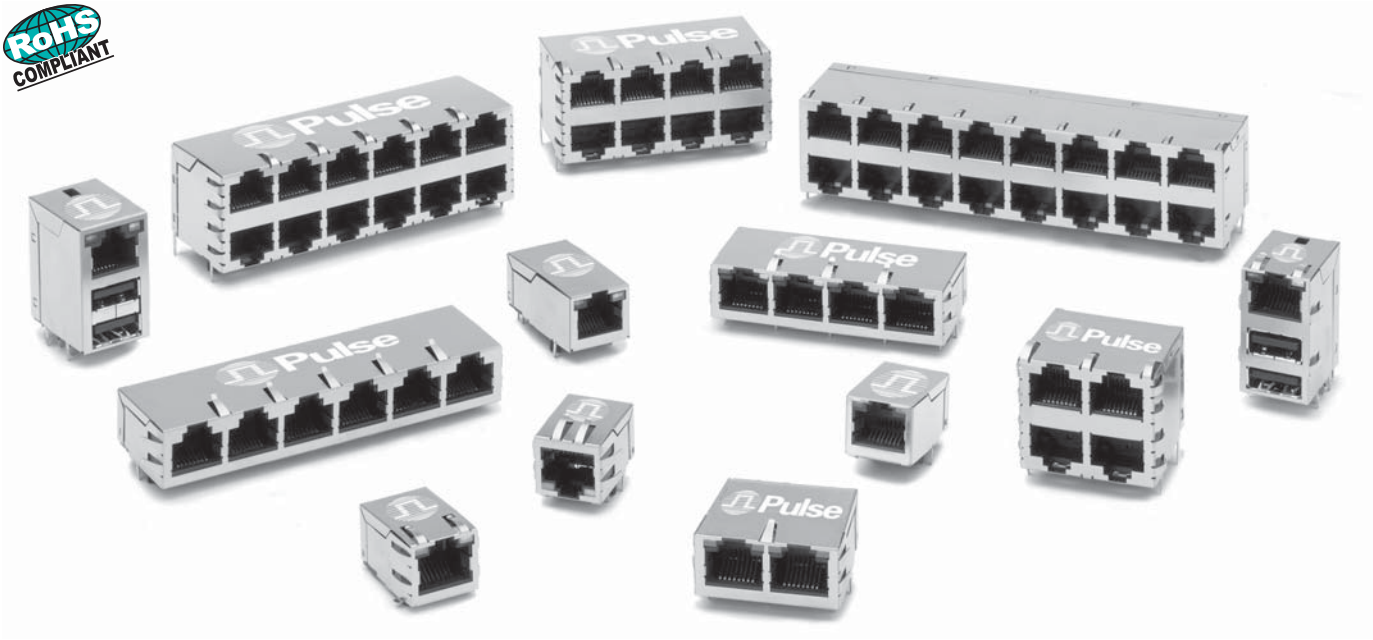
For the reader's convenience and to locate multiple platforms easily, view the IC Cross References that start on page 19.

DISCRETE SMT TRANSFORMER MODULES [1]

No. of Ports	Single				Dual		Quad		
Data Rate	**10Base-T**	**10/100TX**	**Gigabit**	**10G**	**10/100TX**	**Gigabit**	**10Base-T**	**10/100TX**	**Gigabit**
Data Sheet Number	E103 (LP) [2] E112 (ext temp) E115 (1:1 TR) EC100 (SMT, THT) H325 (var. TR) H326 (var. TR)	H303 (1:1 TR) H304 (LP) [2] H314 (var. TR) H315 (2:1 TR) H601 (PoE) H327 (PoE) H328 (1:1 TR) H342 (1:1 TR) H600 (1:1 TR)	HC500 (1:1 TR) H504 (LP) [2] H544 (1:1 TR) H546 (small footprint)	H700	H322 (1:1 TR) H327 (PoE) H600 (1:1 TR)	HC500 (1:1 TR) H601 (PoE) H551 (ext temp) H552	EC101 (var. TR)	H313 (1.41:1 TR) H316 (1:1 TR) H321 (2:1 TR) H327 (PoE) H328 (1:1 TR) H600 (1:1 TR)	H551 (ext temp)

1. ***For common mode chokes,*** *see data sheet G002 at http://www.pulseeng.com.*
2. ***LP*** *= Low Profile*

LAN FILTERED CONNECTORS



PulseJack Filtered Connectors

Pulse offers a broad selection of PulseJack filtered connectors that integrate network magnetics with combinations of RJ45 and USB connectors. In addition to connectivity, they provide signal conditioning, signal isolation and EMI suppression. Designed to meet IEEE 802.3, the PulseJack connectors offer a complete family of single- and multi-port solutions in high-speed applications, including 10/100/1000BASE-T, PoE and other emerging applications (10G and PoE+). For RoHS compliant products, refer to individual data sheets for details.

NOTE: This catalog section serves as an overview to the LAN PulseJack filtered connectors. For detailed data sheets and and a complete list of PulseJack filtered connectors, go to the Pulse website home page and click the right-hand navigation link that says "DATA SHEETS."

For the readers convenience and to locate multiple platforms easily, view the IC Cross References starting on page 19.

RJ45 FILTERED CONNECTORS

Number of Ports	One Port						1xN (2, 4, 6, 8)		2xN (1, 2, 4, 6, 8)		RJ45/dual USB
Locking Tab Up/Down	Down			Up			Down	Up	—		Up
PCB Mounting Type	THT		SMT	THT		SMT	THT		THT		THT
Data Rate	10/100TX	10G	10/100TX	10/100TX	Gigabit	10/100TX	10/100TX	Gigabit	10/100TX	Gigabit	10/100TX
Data Sheet Number	J403 J414	J425	J409 (ext temp)	J402 (ext temp) J415 (PoE) J423 (LP)	J411 (ext temp) J428 (PoE) J423 (LP) 1	J409	J404 J416 (PoE)	J410	J401	J405 J422 J429 J427	J408

***1. LP** = low profile*

LAN IC CROSS REFERENCE

Pulse
A TECHNITROL COMPANY

10GBASE-T DISCRETE COMPONENTS						10GBASE-T ICMs			
IC				Single [A]		1x1		1x1 Offset	
Manufacturer	Part Number	Ports	Notes	Part Number	Data Sheet	Platform	Data Sheet	Platform	Data Sheet
Aquantia	AQ1001	1	PHY	H7001	H700	JTH [1]	J425	JT0 [2]	J425
	AQ1002	1	PHY	H7008	H700	JTH [1]	J425	JT0 [2]	J425
Broadcom	BCM8481	1	PHY	H7001	H700	JTH [1]	J425	JT0 [2]	J425
Solarflare	SFX7101	1	PHY	H7009	H700	JTH [1]	J425	JT0 [2]	J425
	SF9000	1	PHY	H7009	H700	JTH [1]	J425	JT0 [2]	J425
	SF9001	1	PHY	H7009	H700	JTH [1]	J425	JT0 [2]	J425
Teranetics	TN1010	1	PHY	H7008	H700	JTH [1]	J425	JT0 [2]	J425
	TN2010	1	PHY	H7008	H700	JTH [1]	J425	JT0 [2]	J425
	TN2020	1	PHY	H7008	H700	JTH [1]	J425	JT0 [2]	J425
	TN2022	2	PHY	H7008	H700	JTH [1]	J425	JT0 [2]	J425

***1. Tab** down* ***A. R**X turns ratio is 1:1, TX turns ratio is 1:1, unless otherwise specified.*

GIGABIT DISCRETE COMPONENTS										GIGABIT ICMs							
IC				Single		Dual		Quad		1x1		1xN		2xN		RJ45/USB	
Manufacturer	Part Number	Ports	Notes	Part Number	Data Sheet	Part Number	Data Sheet	Part Number	Data Sheet	Part Number	Data Sheet	Part Number	Data Sheet	Part Number	Data Sheet	Part Number	Data Sheet
Agere	ET1011 ET1012	1	PHY	H5007	HC500	H5012	HC500	H5400	H551	JK0 Series [2, C]	J411	JG0 Series [3, C]	J410	JC0 Series [4, C]	J405*	JW0 Series [D]	J408
	ET1081	8	PHY	H5062	H601	H5020 [1]	HC500										
	ET1310	1	MAC/PHY	H5004	HC500	H5014	HC500										
	ET2005-40/50	5	Switch/PHY	H5077	H546	H6080	H601										
	ET2008-30/40/50	5	Switch/PHY	H6062	H601	H5200	H551										
	ET3028-50	28	Switch														
	ET3048-50	48	Switch														
	ET4028-50	28	Switch														
	ET4048-50	48	Switch														
	ET4100	24	Switch														
	ET4128-50	28+2	Switch 1G/10G														
	ET4148-50	48+2	Switch 1G/10G														
	ET4001/4101	48	Switch														
	ET5028-50	28	Switch														
	ET5048-50	48	Switch														
	ET5128-50	28+2	Switch 1G/10G														
	ET5148-50	48+2	Switch 1G/10G														
	GEP11-68		PHY														

Footnotes at the bottom of the last 1Gigabit table.

Continued on next page.

SMT - Surface Mount Package **THT** - Through Hole Package

LAN IC CROSS REFERENCE

GIGABIT DISCRETE COMPONENTS *(continued)*										GIGABIT ICMs *(continued)*							
IC				Single		Dual		Quad		1x1		1xN		2xN		RJ45/USB	
Manufacturer	Part Number	Ports	Notes	Part Number	Data Sheet	Part Number	Data Sheet	Part Number	Data Sheet	Part Number	Data Sheet	Part Number	Data Sheet	Part Number	Data Sheet	Part Number	Data Sheet
Broadcom	BCM5400, BCM5401	1	PHY	H5007	HC500	H5012	HC500	H5401	H551	JK0 Series [2, C]	J411	JG0 Series [3, C]	J410	JC0 Series [4, C]	J405*	JW0 Series [D]	J408
	BCM5411/21/21S	1	PHY	H5062	H601	H5020 [1]	HC500										
	BCM5460/61/81	1	PHY	H5004	HC500	H5014	HC500										
	BCM5701/02/03/04/05	1	MAC/PHY	H6062	H601	H6080	H601										
	BCM5707/21/51	1	MAC/PHY			H5201	H551										
	BCM5402	2	PHY														
	BCM5404/14/24	4	PHY														
	BCM5434/35/64/64S	4	PHY														
	BCM5461S	1	PHY	H5062	H601							JG0-0024NL	J410				
	BCM5478/87/88/98	8	PHY														
	BCM5345/46/47/48	24, 16, 5	Switch														
	BCM5384/85/88	8 , 5, 4	Switch														
	BCM5395	4	PHY									JG0 Series	J410				
	BCM54980	8	PHY														
	BCM5787M	1	PHY							JK0-0004NL							
	BCM5789	1	PHY	H5008	HC5 00												
	AC1011/1012	1	PHY	H5062		H601											
Intel	82540/ 541/544/543	1	MAC/PHY	H5007	HC500	H5012	HC500	H5400	H551	JK0 Series [2, C]	J411	JG0 Series [3, C]	J410	JC0 Series [4, C]	J405*	JW0 Series [D]	J408
	82544/545/546/547	1	MAC/PHY	H5062	H601	H5020 [1]	HC500										
	82562	1	MAC/PHY	H5077	H546	H6080	H601										
	82570/71/72/73/74	1	MAC/PHY			H5200	H551			J0G-0009NL	J423					JW0-0008NL	
	82576EB	1	MAC/PHY	H5007NL	HC500												
LSI Logic	L80600	1	PHY	H5007	HC500	H5012	HC500	H5401	H551	JK0 Series [2, C]	J411	JG0 Series [3, C]	J410	JC0 Series [4, C]	J405*	JW0 Series [D]	J408
	L80601	1	PHY	H5062	H601	H5201	H551										
	ET1011C	1	PHY							JK0654219NL	J411						
Marvell Semiconductor	88E1010/1011S	1	PHY	H5007	HC500	H5012	HC500	H5400	H551	JK0 Series [2, C]	J411	JG0 Series [3, C]	J410	JC0 Series [4, C]	J405*	JW0 Series [D]	J408
	88E1111/12/14/18/19	1	PHY	H5062	H601	H5020 1	HC500			J0G-0009NL	J423						
	88E1121R	1	PHY									JG0-0023NL	J410				
	88E1040/1040S/1041	4	PHY	H5077	H546	H6080	H601										
	88E1041S/1042/1042S	4	PHY	H6062	H601	H5200	H551										
	88E1141/1145/1149	8	PHY							J0G-0001NL	J423						
	88E1340	1	PHY	H5077	H546												
	88E8000/05/06	8	MAC/PHY														
	88E6045	2	PHY														
	88E6122	6	PHY														
	8 8E8022/36/50/62	8	MAC/PHY														

Footnotes at the bottom of the last 1Gigabit table.

Continued on next page.

***Gigabit** chart footnotes are on the next page.*

SMT - Surface Mount Package **THT** - Through Hole Package

LAN IC CROSS REFERENCE

Pulse
A TECHNITROL COMPANY

GIGABIT DISCRETE COMPONENTS *(continued)*										GIGABIT ICMs *(continued)*							
IC				Single		Dual		Quad		1x1		1xN		2xN		RJ45/USB	
Manufacturer	Part Number	Ports	Notes	Part Number	Data Sheet	Part Number	Data Sheet	Part Number	Data Sheet	Part Number	Data Sheet	Part Number	Data Sheet	Part Number	Data Sheet	Part Number	Data Sheet
Micrel	KS9020	1	MAC/PHY	H500 7	HC500	H5012 H5201	HC500 H551	H5401	H551	JK0 Series [2, C]		JG0 Series [3, C]	J410	JC0 Series [4, C]	J405*	JW0 Series [D]	J408
Mysticom	MY1001	1	PHY	H5007 H5062	HC500 H601	H5012 H5020 [1] H5201	HC500 HC500 H551	H5401	H551	JK0 Series [2, C]	J411	JG0 Series [3, C]	J410	JC0 Series [4, C]	J405*	JW0 Series [D]	J408
National Semiconductor	DP83865 DP83864 DP83640	1 4 1	PHY PHY PHY PHY	H5007 H5062 H6062	HC500 H601 H601	H5012 H5020 [1] H6080 H5200	HC500 HC500 H601 H551	H5400	H551	JK0654219NL	J411	JG0 Series [3, C]	J410	JC0 Series [4, C]	J405*	JW0 Series [D]	J408
Realtek	RLT8211/12 RLT8169 RTL8100E/01E/10/11B	1 1	PHY MAC/PHY	H5007 H5062	HC500 H601	H5012 H5020 [1] H5201	HC500 H503 H551	H5401	H551	JK0 Series [2, C]	J411	JG0 Series [3, C]	J410	JC0 Series [4, C]	J405*	JW0 Series [D]	J408
SMSC	LAN8187	1	PHY	H6062	H601												
Vitesse Semiconductor	VSC8201/8211 VSC8221/8601/8641 VSC8204/24/34/44 VSC8558/8538 wVSC7380/7384 VSC7388/7398 VSC7385/7395/7396 VSC7389/7391 VSC7390 VSC7301/7303	1 1 4 8 8, 12 8 5 16 24 16, 24	PHY P5HY PHY PHY GbE switch PHY PHY PHY PHY GbE switch	H5007 H5062 H5084 H6062 H5008 H5014	HC500 H601 H544 H601 HC500 HC500	H5012 H5020 [1] H6080 H5200	HC500 HC500 H601 H551	H5400	H551	JK0 Series [2, C]	J411	JG0 Series [3, C]	J410	JC0 Series [4, C]	J405*	JW0 Series [D]	J408

NOTE: Part** number **JC0-0019** is on data sheet **J422.

1. ***Compact** foot print dual magnetic cross reference*
2. ***Single** port THT tab-up connector cross reference*
3. ***Multiport** 1byN THT tab-up connector cross reference*
4. ***Multiport** THT 2byN connector cross reference*
5. ***RJ45/USB** single port THT tab-up connector cross reference*

*A. **RX** turns ratio is 1:1, TX turns ratio is 1:1, unless otherwise specified.*

*B. **One** part is identified in this cross reference. Multiple parts with different platforms can be found on the referenced data sheet.*

*C. **For** detailed information about this series, e-mail: prodinfo_lan@pulseeng.com or call Pulse and ask for LAN Applications at 858-674-8100*

*D. **LED** colors (Green/Yellow, Green-Orange/Yellow)*

***NOTE: Most** Pulse products can be manufactured to comply with the RoHS (Restriction of Hazardous Substances) directive. These parts are identified by adding the suffix "NL" at the end of the part number.*

SMT - Surface Mount Package **THT** - Through Hole Package

LAN IC CROSS REFERENCE

10/100BASE-TX DISCRETE COMPONENTS											10/100BASE-TX ICMs							
IC					Single		Dual		Quad		1x1		1xN		2xN		RJ45/USB	
Manufacturer	Part Number	Ports	Notes	Turns Ratio	Part Number	Data Sheet	Part Number	Data Sheet	Part Number	Data Sheet	Part Number	Data Sheet	Part Number	Data Sheet	Part Number	Data Sheet	Part Number	Data Sheet
Agere	ET901	1	PHY	1:1	H1102	H325	H1270	H322			J0006D21 [3]	J403	J8064E62 [6]	J404	J20 Series	J401	JW0-0009 [D]	J408
	ET908	8	PHY	1:1	H1260	H600	HX1294	H322			J1006F21 [3]	J402	J8064D628A [6]	J404			JY0-0016 [D]	J408
					H1112	H326	H2005A [2]	H327			JV006I21 [4]	J409						
					H1012	H325					J3006G21D [5]	J409						
					HX1148	H303					J0C-0003 [4]	J409						
					HX1188 [1]	H325					J0018D21 [3]	J403						
					H2019 [2]	H327					J3018G21D [5]	J409						
					H0026	H304												
					PE-69012 [E]	H304												
AMD	AM79C874/C875	1	PHY	1:1	H1102	H325	H1270	H322			J0006D21 [3]	J403	J8064E62 [6]	J404	J20 Series	J401	JW0-0009 [D]	J408
	AM79C971/C972/C973/	1	PHY	1:1	H1260	H600	HX1294	H322			J1006F21 [3]	J402	J8064D628A [6]	J404			JY0-0016 [D]	J408
	AM79C975/C976/C977	1	PHY	1:1	H1112	H326	H2005A [2]	H327			JV006I21 [4]	J409						
				1:1	H1012	H325					J3006G21D [5]	J409						
				1:1	HX1148	H303					J0C-0003 [4]	J409						
				1:1	HX1188 [1]	H325					J0018D21 [3]	J403						
				1:1	H20192 [2]	H327					J3018G21D [5]	J409						
				1:1	H0026	H304												
				1:1	PE-69012 [E]	H304												
Broadcom	AC101, AC101L	1	PHY	1:1	H1102	H325	H1270	H322	H1164 [2]	H328	J0006D21 [3]	J403	J8064E62 [6]	J404	J20 Series	J401	JW0-0009 [D]	J408
	AC104/205/206/207/208	4	PHY	1:1					H1164 [2]	H328			J80 Series	J404	J20 Series	J401		
	AC131		PHY	1:1	H1012	H303	HX1294	H322	H1164 [2]	H328	J0011D21	J403	J80 Series	J404	J20 Series	J401		
	BCM1190	1	PHY	1:1	H1102	H325												
	BCM4401	1	PHY	1:1	H1267	H342											JW0A1P01R	
	BCM5241	1	PHY	1:1	H1102	H325	H2005A [2]	H327	H1164	H328	J00 Series	J403	J80 Series	J404				
	BCM5220/ 5221	1	PHY	1:1	H1012	H303	HX1294	H322			J1006F21 [3]	J402	J8064D628A [6]	J404			JY0-0016 [D]	J408
	BCM5222	2	PHY	1:1	HX1148	H303	H2005A [2]	H327			JV006I21 [4]	J409						
	BCM1100/110/ BCM1112/1190	2	VoIP/PoE	1:1	H2019 [2]	H327	H2009 [2]	H327			J3006G21D [5]	J409						
	BCM1115	1	MAC/PHY	1:1	PE-69012 [E]	H304					J0C-0003 [4]	J409						
	BCM6345/6348	1	MAC/PHY	1:1	HX1188 [1]	H325					J0011D21B [3]	J403						
	BCM5350/5380	8	Switch	1:1	H1260	H600					JV011I21 [4]	J409						
	AC104, BCM5208R	4	PHY	1:1	H1260	H600	H2009 [2]	H327	H1164 [2]	H328	J00-0014 [3]	J414	J8064E64 [6]	J404	J2045H3A [C]	J401		
	AC205/206	5	PHY	1:1	H1112	H326			H1259	H600	J1012F21K [3]	J402	J8064E66 [6]	J404	J2045H3B [C]	J401		
	BCM5315/5325(M) BCM5365	5	MAC/PHY	1:1	HX1188 [1]	H325			HX1234 [2]	H328			J8064E68 [7]	J404	J2045H3C [C]	J401		
	BCM5225/26/27	6	PHY	1:1	H1102	H325			H2017 [2]	H327			J8064D648A [6]	J404				
	BCM5248	8	PHY	1:1														
	AC207/208	8	PHY	1:1	H20192 [2]	H327							J8064D668A [6]	J404				

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LAN IC CROSS REFERENCE

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10/100BASE-TX DISCRETE COMPONENTS *(continued)*											10/100BASE-T ICMs *(continued)*							
IC					Single		Dual		Quad		1x1		1xN		2xN		RJ45/USB	
Manufacturer	Part Number	Ports	Notes	Turns Ratio	Part Number	Data Sheet	Part Number	Data Sheet	Part Number	Data Sheet	Part Number	Data Sheet	Part Number	Data Sheet	Part Number	Data Sheet	Part Number	Data Sheet
Broadcom *(continued)*	BCM5228/5238/5248	8	PHY	1:1					H1164	H328			J8064D688A [6]	J404	J20 Series	J401		
	BCM5318/5338	8	MAC/PHY	1:1					H1164	H328								
	BCM5384	4	Switch	1:1	H0042 [2]	H304												
	BCM5721	1	PHY	1:1														
	BCM5347/5348	48	PHY	1:1														
Cirrus Logic	CS8952	1	PHY	1:1	H1102	H325	H1270	H322			J0006D21 [3]	J403	J8064E62 [6]	J404	J20 Series	J401	JW0-0009 [D]	J408
	CS8952T	1	PHY	1:1	H1260	H600	H2005A [2]	H327			J1006F21 [3]	J402	J8064D628A [6]	J404			JY0-0016 [D]	J408
				1:1	HX1188 [1]	H325	H2009 [2]	H327			JV006I21 [4]	J409						
				1:1	HX2019 [2]	H327					J3006G21D [5]	J409						
				1:1	PE-69012 [E]	H304					J0C-0003 [4]	J409						
Davicom	DM9000/A	1	MAC	1:1	H1012	H325	H1270	H322	H1036	H316	J0006D21 [3]	J403	J8064E62 [6]	J404	J20 Series	J401	JW0-0009 [D]	J408
	DM9161	1	PHY	1:1	H1265	H600					J3006G21D [5]	J409	J8064D628A [6]	J404				
	DM9102A/D	1	MAC/PHY	1:1	H1102	H325					J0C-0003 [4]	J409	JG0-0031 [6]	J416				
	DM9601	1	MAC/PHY	1:1	HX1188 [1]	H325												
	DM9301/9331	1	PHY	1:1	H2019 [2]	H327												
					Hx2019 [2]	H327												
					PE-69012 [E]	H304												
IC+	3097-F, 3299A	1	PHY	1:1	H 1102	H325	H1270	H322	H1164 [2]	H328	J0006D21 [3]	J403	J8064E62 [6]	J404	J2045H3A [C]	J401	JW0-0009 [D]	J408
	IP100A	1	PHY	1:1	H1260	H600	H2005A [2]	H327	H1259	H600	J1006F21 [3]	J402	J8064D628A [6]	J404	J2045H3B [C]	J401	JY0-0016 [D]	J408
	IP108	8	PHY	1:1	HX1188 [1]	H325	H2009 [2]	H327	HX1234 [1]	H328	JV006I21 [4]	J409	J8064D648A [6]	J404	J2045H3C [C]	J401		
	IP1726	26	PHY	1:1	HX2019 [2]	H327			H2017 [2]	H327	J3006G21D [5]	J409						
	IP101	1	PHY	1:1	PE-69012 [E]	H304					J0C-0003 [4]	J409						
ICS	ICS1890/1891	1	PHY	1:1	H1102	H325	H1270	H322			J0006D21 [3]	J403	J8064E62 [6]	J404	J20 Series	J401	JW0-0009 [D]	J408
	ICS1893	1	PHY	1:1	H1260	H600	H2005A [2]	H327			J1006F21 [3]	J402	J8064D628A [6]	J404			JY0-0016 [D]	J408
					HX1188 [1]	H325	H2009 [2]	H327			JV006I21 [4]	J409						
					H1012	H303					J3006G21D [5]	J409						
					PE-69012 [E]	H304												
Infineon (AMD Tek)	PSB21553	2	PoE/PHY	1:1			H2006A 2	H327							J20 Series	J401	JW0-0009 [D]	J408
	ADM8511/8513/9511	1	PHY	1:1	H1102	H325	H1270	H322			J0006D21 [3]	J403	J8064E62 [6]	J404			JY0-0016 [D]	J408
	ADM9513, AN983B	1	PHY	1:1	H1260	H600	H2005A [2]	H327			J1006F21 [3]	J402	J8064D628A [6]	J404				
	AN985B/L autoMDX	1	PHY	1:1	HX1188 [1]	H325	H2009 [2]	H327			JV006I21 [4]	J409						
	ADM7001	1	PHY	1:1	H2019 [2]	H327	HX1294	H322			J3006G21D [5]	J409						
											J0C-0003 [4]	J409						
	ADM6305,	5	PHY	1:1	H1260	H600			H1164 [2]	H328			J8064E64 [6]	J404	J2045H3A [C]	J401		
	ADM6308/6326/ ADM6509	8	PHY	1:1					H1259	H600			J8064E68 [6]	J404	J2045H3B [C]	J401		
	ADM6609/6909	8.9	PHY	1:1					HX1234 [1]	H328			J8064D648A [6]	J404	J2045H3C [C]	J401		
	ADM6996L	5	PHY	1:1					H2017 2	H327			J8064D688A 6	J404				

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10/100BASE-TX DISCRETE COMPONENTS (continued)											10/100BASE-TX ICMs (continued)							
IC					Single		Dual		Quad		1x1		1xN		2xN		RJ45/USB	
Manufacturer	Part Number	Ports	Notes	Turns Ratio	Part Number	Data Sheet	Part Number	Data Sheet	Part Number	Data Sheet	Part Number	Data Sheet	Part Number	Data Sheet	Part Number	Data Sheet	Part Number	Data Sheet
Intel	82551/2551QM/551ER	1	MAC/PHY	1:1	H1102	H325	H1270	H322	H1164 [2]	H328	J0006D21 [3]	J403	J8064E62 [6]	J404	J20 Series	J401	JW0-0009 [D]	J408
	82562/562EZ/550	1	MAC/PHY	1:1	H1260	H600	H2005A [2]	H327	H1259	H600	J1006F21 [3]	J402	J8064D628A [6]	J404			JY0-0016 [D]	J408
	82559/559ER	1	MAC/PHY	1:1	HX1188 [1]	H325	H2009 [2]	H327	HX1234 [1]	H328	JV006I21 [4]	J409						
	LXT970A/971(ALC)/972A	1	PHY	1:1	H1112	H326					J3006G21D [5]	J409						
	LXT973	2	PHY	1:1	H2019 [2]	H327					J0C-0003 [4]	J409						
	LXT972	1	PHY	1:1	PE-69012 [E]	H304					J00-0014 [3]	J414						
Luminary Micro	LM3S6938	1	PHY	1:1	H1102	H325					J00 Series	J403						
	LM3S6611	1	PHY	1:1							JK0-0025 (PoE)	J411						
	LM3S8962	1	PHY	1:1	H2019 (PoE)	H327												
LSI	L80223	1	PHY	1:1	H1102	H325	H1270	H322			J0006D21 [3]	J403	J8064E62 [6]	J404	J20 Series	J401	JW0-0009 [D]	J408
	L80225	1	PHY	1:1	H1260	H600	H2005A [2]	H327			J1006F21 [3]	J402	J8064D628A [6]	J404			JY0-0016 [D]	J408
	L80227	1	PHY	1:1	HX1188 [1]	H325	H2009 [2]	H327			JV006I21 [4]	J409						
					H2019 [2]	H327					J3006G21D [5]	J409						
					H1012	H303					J0C-0003 [4]	J409						
					PE-69012 [E]	H304												
Marvell	88E6021	3	PHY	1:1	H1102	H325	H1270	H322	H1164 [2]	H328	J0006D21 [3]	J403	J8064E64 [6]	J404	J2045H3A [C]	J401	JW0-0009 [D]	J408
	88E6051	5	PHY	1:1	H1260	H600	H2005A [2]	H327	H1259	H600	J1006F21 [3]	J402	J8064E68 [6]	J404	J2045H3B [C]	J401	JY0-0016 [D]	J408
	88E6060/88E6218	5/6	PHY	1:1	HX1188 [1]	H325	H2009 [2]	H327	HX1234 [1]	H328	JV006I21 [4]	J409	J8064E648A [6]	J404	J2045H3C [C]	J401		
	88E6052, 88E6063	5/6/7	PHY	1:1	H2019 [2]	H327			H2017 [2]	H327	J3006G21D [5]	J 409	J8064E688a [6]	J404				
	88E3081/3082/3083	8	PHY	1:1	PE-69012 [E]	H304					J0C-0003 [4]	J409						
	88E6083	10	Switch	1:1	H1183	H325					JK0654218Z	J411						
	88E6095	8	Switch	1:1														
MICREL	KS8721B/21BL/37	1	PHY	1:1	H1102	H325	H1270	H322			J0006D21 [3]	J403	J8064E62 [6]	J404	J20 Series	J401	JW0-0009 [D]	J408
	KS8993/8993M/8993F	3	MAC/PHY	1:1	H1260	H600	H2005A [2]	H327			J1006F21 [3]	J402	J8064D628A [6]	J404			JY0-0016 [D]	J408
	KS8737	1	PHY	1:1	HX1188 [1]	H325	H2009 [2]	H327			JV006I21 [4]	J409						
	KSZ8893	1	PHY	1:1	H2019 [2]	H327	H2006A [2]	H327			J3006G21D [5]	J409						
					PE-69012 [E]	H304					J0C-0003 [4]	J409						
											J1011F01P [3]	J402						
	KS8695P	5	PHY	1:1			H2009 [2]	H327	H1164 [2]	H328			J8064E64 [6]	J404	J2045H3A [C]	J401	JW0-0009 [D]	J408
	KS8995/95M/95MA/95E	5	MAC/PHY	1:1			H1270	H322	H1259	H600			J8064E68 [6]	J404	J2045H3B [C]	J401	JY0-0016 [D]	J408
	KS8995X	5	MAC/PHY	1:1					HX1234 [1]	H328			J8064E648A [6]	J404	J2045H3C [C]	J401		
	KS8997/KS8998	8	MAC/PHY	1:1					H2017 [2]	H327			J8064E688A [6]	J404				
	KS8999	9	MAC/PHY	1:1														

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LAN IC CROSS REFERENCE

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10/100BASE-TX DISCRETE COMPONENTS *(contintued)*

10/100BASE-TX ICMs *(continued)*

IC					Single		Dual		Quad		1x1		1xN		2xN		RJ45/USB	
Manufacturer	Part Number	Ports	Notes	Turns Ratio	Part Number	Data Sheet	Part Number	Data Sheet	Part Number	Data Sheet	Part Number	Data Sheet	Part Number	Data Sheet	Part Number	Data Sheet	Part Number	D ata Sheet
Microchip	PIC18F87J50	1	PHY	1:1	H1102	H325					J00 Series	J403						
	PIC18F67J60	1	PHY	1:1							J00 Series	J403						
	ENC28J60	1	PHY	1:1	H1102	H325					J00-0065	J414						
MicroLinear	ML6652	1	AutoMDX	1:1	H1102	H325	H1270	H322			J0006D21 [3]	J403	J8064E62 [6]	J404	J20 Series	J401	JW0-0009 [D]	J408
					H1260	H600	H2005A [2]	H327			J1006F21 [3]	J402	J8064D628A [6]	J404			JY0-0016 [D]	J408
					HX1188 [1]	H325	H2009 [2]	H327			JV006I21 [4]	J409						
							H2019 [2]	H327			J3006G21D [5]	J409						
					PE-69012 [E]	H304					J0C-0003 [4]	J409						
Myson	MTD971	1	PHY	1:1	H1102	H325	H1270	H322	H1164 [2]	H328	J0006D21 [3]	J403	J8064E62 [6]	J404	J20 Series	J401	JW0-0009 [D]	J408
	MTD972	1	PHY	1:1	H1260	H600	H2005A [2]	H327	H1259	H600	J1006F21 [3]	J402	J8064D628A [6]	J404			JY0-0016 [D]	J408
	MTD981	1	PHY	1:1	HX1188 [1]	H325	H2009 [2]	H327	HX1234 [1]	H328	JV006I21 [4]	J409						
					H2019 [2]	H327			H2017 [2]	H327	J3006G21D [5]	J409						
					PE-69012 [E]	H304					J0C-0003 [4]	J409						
Mysticom	MystiPHY110	1	PHY	1:1	H1102	H325	H1270	H322	H1164 [2]	H328	J0006D21 [3]	J403	J8064E62 [6]	J404	J20 Series	J401	JW0-0009 [D]	23
					H1260	H600	H2005A [2]	H327	H1259	H600	J1006F21 [3]	J402	J8064D628A [6]	J404			JY0-0016 [D]	J408
					HX1188 [1]	H325	H2009 [2]	H 327	HX1234 [1]	H328	JV006I21 [4]	J409						
					H2019 [2]	H327			H2017 [2]	H327	J3006G21D [5]	J409						
					PE-69012 [E]	H304					J0C-0003 [4]	J409						
National Semiconductor	DP83847	1	PHY	1:1	H1102	H325	H1270	H322	H1164 [2]	H328	J0006D21 [3]	J403	J8064E62 [6]	J404	J20 Series	J401	JW0-0009 [D]	J408
	DP83848/C	1	PHY	1:1	H1012	H303	HX1294	H322	H1036L	H316	J1006F21 [3]	J402	J8064D628A [6]	J404			JY0-0016 [D]	J408
	DP83816 (macphyter II)	1	MAC/PHY	1:1	H1260	H600	HX1148	H303	H2005A [2]	H327	J1006D21 [6]	J402	J1006D21 [6]	J402				
					HX1188 [1]	H325	H2009 [2]	H327	HX1234 [1]	H328	JV006I21 [4]	J409						
					H2019 [2]	H327			H2017 [2]	H327	J3006G21D [5]	J409						
					PE-69012 [E]	H304			H1259	H600	J0C-0003 [4]	J409						
					H1112	**H326**					J0026D21 [3]	J403						
Realtek	RTL8100C/101L/100B	1	Controller	1:1	H1102	H325	H1270	H322			J0006D21 [3]	J403	J8064E62 [6]	J404	J20 Series	J401	JW0-0009 [D]	J408
	RTL8139/B/C/CL	**?**	Controller	1:1	H1260	H600	H2005A [2]	H327			J1006F21 [3]	J402	J8064D628A [6]	J404			JY0-0016 [D]	J408
	RTL8150	1	Controller	1:1	H1251	H600	H2009 [2]	H327			JV006I21 [4]	J409						
	RTL8201CL/8201BL	1	PHY	1:1	H1281	H600					J3006G21D [5]	J409						
	RTL8019AS	1	Controller	1:1	HX1188 [1]	H325					J0C-0003 [4]	J409						
	RTL8181/86	1	Controller		H2019 [2]	H327					J0026D01B [3]	J403						
	RTL8208	8	PHY		PE-69012 [E]	H304					J1012F01C [3]	J402						
	RTK8308	8	Controller		H0019	H304					J3011G21D [5]	J409						
	RTL8309	9	Controller		H1112	H326					J1011F01P [3]	J402						

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LAN IC CROSS REFERENCE

10/100BASE-TX DISCRETE COMPONENTS (contintued)											10/100BASE-TX ICMs (continued)							
IC					Single		Dual		Quad		1x1		1xN		2xN		RJ45/USB	
Manufacturer	Part Number	Ports	Notes	Turns Ratio	Part Number	Data Sheet	Part Number	Data Sheet	Part Number	Data Sheet	Part Number	Data Sheet	Part Number	Data Sheet	Part Number	Data Sheet	Part Number	Data Sheet
Realtek (continued)	RTL8208	8	PHY	1:1	H1102	H325	H1260	H600	H1164 [2]	H328	J0006D21 [3]	J403	J8064E64 [6]	J404	J2045H3A [C]	J401	JW0-0009 [D]	J408
	RTL8316	16	Controller	1:1	H1260	H600	H2005A [2]	H327	H1259	H600	J1006F21 [3]	J402	J8064D68 [6]	J404	J2045H3B [C]	J401	JY0-0016 [D]	J408
							H2009 [2]	H327	HX1234 [1]	H328			J8064E648A [6]	J404	J2045H3C [C]	J401		
									H2017 [2]	H327			J8064E688A [6]	J404				
SIS	SiS900	1	MAC/PHY	1:1	H1102	H325	H1270	H322			J0006D21 [3]	J403	J8064E62 [6]	J404	J20 Series	J401	JW0-0009 [D]	J408
					H1260	H600	H2005A [2]	H327			J1006F21 [3]	J402	J8064D628A [6]	J404			JY0-0016 [D]	J408
					H2019 2	H327	H2009 [2]	H327			JV006I21 [4]	J409						
					PE-69012 [E]	H304					J3006G21D [5]	J409						
											J0C-0003 [4]	J409						
SMSC	LAN83C183/185	1	PHY	1:1	H1102	H325	H1270	H322			J0006D21 [3]	J403	J8064E62 [6]	J404	J20 Series	J401	JW0-0009 [D]	J408
	LAN91C100FD/110	1	Controller	1:1	H1260	H600	H2005A [2]	H327			J1006F21 [3]	J402	J8064D628A [6]	J404			JY0-0016 [D]	J408
	LAN91C96, LAN91C96I	1	Controller	1:1	HX1188 [1]	H325	H2009 [2]	H327			JV006I21 [4]	J409						
	LAN91C111	1	PHY	1:1	H2019 [2]	H327					J3006G21D [5]	J409						
					PE-69012 [E]	H304					J0C-0003 [4]	J409						
	LAN8700	1	PHY	1:1							J0026D21 [3]	J403						
	LAN9115										J0011D21B	J403						

1. **Extended** temperature single port discrete magnetic cross reference
2. **PoE/VoIP** single port discrete magnetic cross reference
3. **Single** port THT tab-up/down connector cross reference
4. **Single** port SMT tab-down connector cross reference
5. **Single** port SMT tab-up connector cross reference
6. **Multiport** 1byN THT tab-down connector cross reference
7. **RJ45/USB** single port THT tab-up connector cross reference

A. RX turns ratio is 1:1, TX turns ratio is 1:1, unless otherwise specified.

B. One part is identified in this cross reference. Multiple parts with different platforms can befound on the referenced data sheet.

C. Multiport 2byN THT connector cross reference (A=2x4, B=2x6, C=2x8)

D. LED colors (Green/Yellow, Green-Orange/Yellow)

E. Low profile (PCMCIA)

NOTE: Most Pulse products can be manufactured to comply with the RoHS (Restriction of Hazardous Substances) directive. These parts are identified by adding the suffix "NL" at the end of the part number.

SMT - Surface Mount Package **THT** - Through Hole Package

LAN IC CROSS REFERENCE

10BASE-T DISCRETE COMPONENTS

IC Manufacturer	IC Part Number	Pulse Part No.	Ports Supported	Configuration [1]		Turns Ratio [2]		Package		Data Sheet
				TX	RX	TX	RX	Style [3]	L/W/H (in)*	
AMD	AM79C90, AM79C98,	FL1020	Single Port	R, F, T, C	R, F, T, C	1CT:1CT	1CT:1CT	DIL	1.000/.400/.338	FL1020
	AM79C100, AM79C940,	E2003	Single Port	R, F, T, C	R, F, T, C	1CT:1	1CT:1	SMT	1.000/.500/.230	E115
	AM79C960, AM79C961,	PE-68017S	Single Port	F, T, C	F, T, C	1CT:1	1CT:1	SIL	1.000/.210/.450	E104
	AM79C965, AM79C970,	SF1012	Single Port	F, T, C	F, T, C	1:1	1:1	SMT	1.010/.380/.246	SF1012
	AM79C971, AM79C981,	PE-68026	Single Port	F, T, C	F, T, C	1CT:1CT	1CT:1CT	SMT	.930/.510/.230	E115
	AM79C982, AM79C983,	FL1012	Single Port	F, T, C	F, T	1CT:1CT	1CT:1CT	DIL	1.000/.400/.338	FL1012
	AM79C961 (PC net-ISA II)	PE-68068	Single Port	F, T, C	F, T	1CT:1	1CT:1	SMT	.600/.650/.084	E100
		PE-68056	Single Port	F, T, C	F, T	1CT:1	1CT:1	SMT	.930/.510/.230	E115
		PE-68032	Single Port	F, T, C	F, T	1CT:1	1CT:1	PCMCIA	.800/.675/.094	E103
	AM79C984, AM79C985,	PE-68049L	Quad Port	T, C	T	1CT:1CT	1:1	SMT	1.125/.640/.230	EC101
	AM79C988, AM79C989	PE-68050L	Quad Port	T	T	1CT:1CT	1:1	SMT	1.125/.640/.230	EC101
		E5017	Single Port	T, C	T	1CT:1CT	1CT:1CT	SMT	.500/.370/.200	EC100
	AM186CC15DN	E2003	Single Port	R, F, T, C	R, F, T, C	1CT:1	1CT:1	SMT	1.000/.500/.230	E115
Cirrus Logic	CS8900, CS8920	PE-68062L	Quad Port	T, C	T	1CT:1.414CT	1:1	SMT	1.125/.640/.230	EC101
		PE-68065L	Quad Port	T	T	1CT:1.414CT	1:1	SMT	1.125/.640/.230	EC101
		23Z356SM	Single Port	T, C	T, C	1CT:1.414CT	1CT:1CT	SMT	.450/.360/.215	EC100
		ST7010T	Single Port	T, C	T, C	1CT:1.414CT	1CT:1CT	SMT	.457/.375/.230	ST7010T
		PE-65745	Single Port	T	T	1CT:1.414CT	1CT:1CT	SMT	.500/.370/.200	EC100
		E2003	Single Port	R, F, T, C	R, F, T, C	1CT:1	1CT:1	SMT	1.000/.500/.230	E115
	CS8900A-CQ3	E2023	Single Port	T, C	T, C	1CT:2.5CT	1CT:1CT	SMT	.500/.375/.230	EC100
	CS8900A-RQ3	EX2024	Single Port	T, C	T, C	1CT:2.5CT	1CT:1CT	SMT	.500/.370/.200	EC100
Davicom	DM9008	FL1020	Single Port	R, F, T, C	R, F, T, C	1CT:1CT	1CT:1CT	DIL	1.000/.400/.338	FL1020
	DM9009	PE-68017S	Single Port	F, T, C	F, T, C	1CT:1	1CT:1	SIL	1.000/.210/.450	E104
	DM9081	SF1012	Single Port	F, T, C	F, T, C	1:1	1:1	SMT	1.010/.380/.246	SF1012
	DM9095	PE-68026	Single Port	F, T, C	F, T, C	1CT:1CT	1CT:1CT	SMT	.930/.510/.230	E115
		FL1012	Single Port	F, T, C	F, T	1CT:1CT	1CT:1CT	DIL	1.000/.400/.338	FL1012
		PE-68056	Single Port	F, T, C	F, T	1CT:1	1CT:1	SMT	.930/.510/.230	E115
		PE-68032	Single Port	F, T, C	F, T	1CT:1	1CT:1	PCMCIA	.800/.675/.094	E103
Fujitsu	MB86967	PE-68026	Single Port	F, T, C	F, T, C	1CT:1CT	1CT:1CT	SMT	.930/.510/.230	E115
		PE-68032	Single Port	F, T, C	F, T	1CT:1	1CT:1	PCMCIA	.800/.675/.094	E103
	MB86951, MB86961,	23Z356SM	Single Port	T, C	T, C	1CT:1.414CT	1CT:1CT	SMT	.450/.360/.215	EC100
	MB86964, MB86965B	PE-68048	Single Port	T, C	T	1CT:1.414CT	1CT:1CT	SMT	.500/.370/.200	EC100
		PE-65745	Single Port	T	T	1CT:1.414CT	1CT:1CT	SMT	.500/.370/.200	EC100
Intel (Level One)	LXT901A, LXT907A	23Z356SM	Single Port	T, C	T, C	1CT:1.414CT	1CT:1CT	SMT	.450/.360/.215	EC100
		PE-68048	Single Port	T, C	T	1CT:1.414CT	1CT:1CT	SMT	.500/.370/.200	EC100
		PE-65745	Single Port	T	T	1CT:1.414CT	1CT:1CT	SMT	.500/.370/.200	EC100
	LXT905, LXT908	23Z467SM	Single Port	T, C	T, C	1CT:2CT	1CT:1CT	SMT	.450/.360/.215	EC100
		ST4202T	Single Port	T, C	T, C	1CT:2CT	1CT:1CT	SMT	.477/.360/.223	ST4202T
	LXT902	FL1020	Single Port	R, F, T, C	R, F, T, C	1CT:1CT	1CT:1CT	DIL	1.000/.400/.338	FL1020
		PE-68017S	Single Port	F, T, C	F, T, C	1CT:1	1CT:1	SIL	1.000/.210/.450	E104
		SF1012	Single Port	F, T, C	F, T, C	1:1	1:1	SMT	1.010/.380/.246	SF1012
		PE-68026	Single Port	F, T, C	F, T, C	1CT:1CT	1CT:1CT	SMT	.930/.510/.230	E115
		FL1012	Single Port	F, T, C	F, T	1CT:1CT	1CT:1CT	DIL	1.000/.400/.338	FL1012
		PE-68056	Single Port	F, T, C	F, T	1CT:1	1CT:1	SMT	.930/.510/.230	E115
		PE-68032	Single Port	F, T, C	F, T	1CT:1	1CT:1	PCMCIA	.800/.675/.094	E103
	LXT914, LXT915,	PE-68062L	Quad Port	T, C	T	1CT:1.414CT	1:1	SMT	1.125/.640/.230	EC101
	LXT916, LXT917,	PE-68065L	Quad Port	T	T	1CT:1.414CT	1:1	SMT	1.125/.640/.230	EC101
	LXT918, LXT944	PE-68810	Quad Port	T	—	—	1:1 (4X)	SMT	.500/.370/.200	EC100
		PE-68820	Quad Port	T	—	1:1.414 (4X)	—	SMT	.500/.370/.200	EC100
LSI	L64381	FL1020	Single Port	R, F, T, C	R, F, T, C	1CT:1CT	1CT:1CT	DIL	1.000/.400/.338	FL1020
	80C24	PE-68017S	Single Port	F, T, C	F, T, C	1CT:1	1CT:1	SIL	1.000/.210/.450	E104
		SF1012	Single Port	F, T, C	F, T, C	1:1	1:1	SMT	1.010/.380/.246	SF1012
		PE-68026	Single Port	F, T, C	F, T, C	1CT:1CT	1CT:1CT	SMT	.930/.510/.230	E115
		FL1012	Single Port	F, T, C	F, T	1CT:1CT	1CT:1C T	DIL	1.000/.400/.338	FL1012
		PE-68056	Single Port	F, T, C	F, T	1CT:1	1CT:1	SMT	.930/.510/.230	E115
		PE-68032	Single Port	F, T, C	F, T	1CT:1	1CT:1	PCMCIA	.800/.675/.094	E103

1. ***Configuration:*** ***T*** *= Transformer,* ***F*** *= Low Pass Filter,* ***C*** *= Choke,* ***R*** *= Pre-distortion Resistors*
2. ***Turns Ratio*** *is referenced chip side to media side.*
3. ***Package Styles: DIL*** *(Dual-In-Line Package),* ***SIL*** *(Single-In-Line Package),* ***SMT*** *(Surface Mount Package),* ***PCMCIA*** *(Ultra Low Profile–SMT)*
4. ***Millimeters***

NOTE: ICs are in groups. Each group works with all adjacent Pulse parts. ***L/W/H** is measured on surface mount parts tip to tip (height includes wash area).

LAN IC CROSS REFERENCE

10BASE-T DISCRETE COMPONENTS *(continued)*

IC Manufacturer	IC Part Number	Pulse Part No.	Ports Supported	Configuration [1]		Turns Ratio [2]		Package		Data Sheet
				TX	RX	TX	RX	Style [3]	L/W/H (in)*	
Lucent	T7213, T7241A	FL1020	Single Port	R, F, T, C	R, F, T, C	1CT:1CT	1CT:1CT	DIL	1.000/.400/.338	FL1020
		PE-68017S	Single Port	F, T, C	F, T, C	1CT:1	1CT:1	SIL	1.000/.210/.450	E104
		SF1012	Single Port	F, T, C	F, T, C	1:1	1:1	SMT	1.010/.380/.246	SF1012
		PE-68026	Single Port	F, T, C	F, T, C	1CT:1CT	1CT:1CT	SMT	.930/.510/.230	E115
		FL1012	Single Port	F, T, C	F, T	1CT:1CT	1CT:1CT	DIL	1.000/.400/.338	FL1012
		PE-68056	Single Port	F, T, C	F, T	1CT:1	1CT:1	SMT	.930/.510/.230	E115
		PE-68032	Single Port	F, T, C	F, T	1CT:1	1CT:1	PCMCIA	.800/.675/.094	E103
MicroLinear	ML2652, ML2653,	23Z435SM	Single Port	T	T	2CT:1CT	1CT:1CT	DIL	.800/.340/.250	EC100
	ML4652, ML4658	PE-68052	Single Port	T, C	T	2CT:1CT	1CT:1CT	SMT	.500/.370/.200	EC100
Motorola	MC68160	FL1020	Single Port	R, F, T, C	R, F, T, C	1CT:1CT	1CT:1CT	DIL	1.000/.400/.338	FL1020
		E2007	Single Port	R, F, T, C	R, F, T	1CT:1	1CT:1	SMT	1.000/.500/.230	E115
		PE-68017S	Single Port	F, T, C	F, T, C	1CT:1	1CT:1	SIL	1.000/.210/.450	E104
		SF1012	Single Port	F, T, C	F, T, C	1:1	1:1	SMT	1.010/.380/.246	SF1012
		PE-68026	Single Port	F, T, C	F, T, C	1CT:1CT	1CT:1CT	SMT	.930/.510/.230	E115
		FL1012	Single Port	F, T, C	F, T	1CT:1CT	1CT:1CT	DIL	1.000/.400/.338	FL1012
		PE-68056	Single Port	F, T, C	F, T	1CT:1	1CT:1	SMT	.930/.510/.230	E115
		PE-68032	Single Port	F, T, C	F, T	1CT:1	1CT:1	PCMCIA	.800/.675/.094	E103
National Semiconductor	DP83901A	FL1020	Single Port	R, F, T, C	R, F, T, C	1CT:1CT	1CT:1CT	DIL	1.000/.400/.338	FL1020
	DP83902A, DP83902	E2001	Single Port	R, F, T, C	R, F, T	1CT:1	1CT:1	SMT	1.000/.500/.230	E115
	DP83905, DP83934	PE-68017S	Single Port	F, T, C	F, T, C	1CT:1	1CT:1	SIL	1.000/.210/.450	E104
		SF1012	Single Port	F, T, C	F, T, C	1:1	1:1	SMT	1.010/.380/.246	SF1012
		PE-68026	Single Port	F, T, C	F, T, C	1CT:1CT	1CT:1CT	SMT	.930/.510/.230	E115
		FL1012	Single Port	F, T, C	F, T	1CT:1CT	1CT:1CT	DIL	1.000/.400/.338	FL1012
		PE-68056	Single Port	F, T, C	F, T	1CT:1	1CT:1	SMT	.930/.510/.230	E115
		PE-68032	Single Port	F, T, C	F, T	1CT:1	1CT:1	PCMCIA	.800/.675/.094	E103
	DP83907, DP83924A	E5002	Quad Port	T, C	T, C	1CT:2CT	1:1	SMT	1.125/.640/.230	E116
		23Z467SM	Single Port	T, C	T, C	1CT:2CT	1CT:1CT	SMT	.450/.360/.215	EC100
		ST4202T	Single Port	T, C	T, C	1CT:2CT	1CT:1CT	SMT	.447/.360/.223	ST4202T
Realtek	RTL8301	PE-68049L	Quad Port	T, C	T	1CT:1CT	1:1	SMT	1.125/.640/.230	EC101
	RTL8019AS	PE-68026	Single Port	F, T, C	F, T, C	1CT:1CT	1CT:1CT	SMT	.930/.510/.230	E115
	RTL8029AS	PE-68026	Single Port	F, T, C	F, T, C	1CT:1CT	1CT:1CT	SMT	.930/.510/.230	E115
	RTL8301	PE-68049L	Quad Port	T, C	T	1CT:1CT	1:1	SMT	1.125/.640/.230	EC101
SMSC	LAN91C46	PE-68026	Single Port	F, T, C	F, T, C	1CT:1CT	1CT:1CT	SMT	.930/.510/.230	E115
	LAN91C91	EX2001	Single Port	F, T, C	F, T, C	1CT:1CT	1CT:1CT	SMT	.930/.510/.230	E112
	LAN91C96	PE-68056	Single Port	F, T, C	F, T	1CT:1CT	1CT:1CT	SMT	.930/.510/.230	E115
		EX2001	Single Port	F, T, C	F, T, C	1CT:1CT	1CT:1CT	SMT	.930/.510/.230	E112
		E2009	Single Port	F, T, C	F, T	1CT:1.414	1CT:1	SMT	1.000/.500/.230	E115
	LAN91C111	EX2001	Single Port	F, T, C	F, T, C	1CT:1CT	1CT:1CT	SMT	.930/.510/.230	E112
Texas Instruments	TNETE100A	23Z356SM	Single Port	T, C	T, C	1CT:1.414CT	1CT:1CT	SMT	.450/.360/.215	EC100
		PE-65745	Single Port	T	T	1CT:1.414CT	1CT:1CT	SMT	.500/.370/.200	EC100
		PE-68048	Single Port	T, C	T	1CT:1.414CT	1CT:1CT	SMT	.500/.370/.200	EC100
	TNETE2004	PE-68062L	Quad Port	T, C	T	1CT:1.414CT	1:1	SMT	1.125/.640/.230	EC101
		PE-68065L	Quad Port	T	T	1CT:1.414CT	1:1	SMT	1.125/.640/.230	EC101
		23Z356SM	Single Port	T, C	T, C	1CT:1.414CT	1CT:1CT	SMT	.450/.360/.215	EC100
		PE-65745	Single Port	T	T	1CT:1.414CT	1CT:1CT	SMT	.500/.370/.200	EC100
		PE-68048	Single Port	T, C	T	1CT:1.414CT	1CT:1CT	SMT	.500/.370 /.200	EC100
	TNETE2008	PE-68049L	Quad Port	T, C	T	1CT:1CT	1:1	SMT	1.125/.640/.230	EC101

1. ***Configuration:*** ***T*** *= Transformer,* ***F*** *= Low Pass Filter,* ***C*** *= Choke,* ***R*** *= Pre-distortion Resistors*
2. ***Turns Ratio*** *is referenced chip side to media side.*
3. ***Package Styles: DIL*** *(Dual-In-Line Package),* ***SIL*** *(Single-In-Line Package),* ***SMT*** *(Surface Mount Package),* ***PCMCIA*** *(Ultra Low Profile–SMT)*

NOTE: ICs are in groups. Each group works with all adjacent Pulse parts. ***L/W/H** is measured on surface mount parts tip to tip (height includes wash area).

LAN IC CROSS REFERENCE

ATM NETWORK COMPONENTS IC CROSS REFERENCE

Speed	IC Manufacturer/ IC Part Number	Pulse Part No.	Ports Supported	Configuration [1]		Turns Ratio [2]		Package		Data Sheet
				TX	RX	TX	RX	Style [3]	L/W/H (in) *	
155 ATM	**National**/83223	PE-68517L	Single Port	C, T, C, S	C, T	1CT:1CT	1CT:1CT	SMT	1.000/.510/.370	H303
	MicroLinear/ML6674	PE-68515L	Single Port	T, C, S	C, T	1CT:1CT	1CT:1CT	SMT	1.000/.510/.370	H303
	PMC Sierra/PM5350	H1019	Single Port	C, T, C, S	C, T	1CT:1CT	1CT:1CT	SMT	1.000/.510/.230	H303
		H1012	Single Port	T, C, S	C, T	1CT:1CT	1CT:1CT	SMT	1.000/.510/.230	H303
		H1027	Dual Port	C, T, C, S	C, T	1CT:1CT	1CT:1CT	SMT	1.12 5/.640/.230	H322
		H1028	Dual Port	T, C, S	C, T	1CT:1CT	1CT:1CT	SMT	1.125/.640/.230	H322
		H1049	Dual Port	T, C, S	C, T	1CT:1CT	1CT:1CT	SMT	1.125/.640/.230	H322
		H1036L	Quad Port	T, C	C, T	1CT:1	1CT:1CT	SMT	1.125/.640/.230	H316
		H1044	Quad Port	T, C	C, T	1CT:1	1CT:1CT	SMT	1.125/.640/.230	H316

1. ***Configuration:*** *T = Transformer, C = Choke, S = Shunt Inductor*
2. ***Turns Ratio*** *is referenced chip side to media side.*
3. ***Package Style:*** *SMT– Surface Mount Package*

NOTE: ICs are in groups. Each group works with all adjacent Pulse parts.

***L/W/H** is measured on surface mount parts tip to tip (height includes wash area).

COMMON MODE CHOKES FOR LAN AND TELECOM APPLICATIONS

Part Number	Number of Lines	Inductance OCL (µH MIN)	Package [4] L/W/H (in.)*	Data Sheet
23Z107	2	68	.340/.230/.250	G002
PE-67531	2	140	.400/.200/.350	G002
B2005	2	9000	.500/.400/.630	G002
T8116T	2	470	.248/.350/.154	T673
T8112T	2	1000	.248/.350/.154	T673
T8113T	2	2200	.248/.350/.154	T673
T8114T	2	4700	.248/.350/.154	T673
PE-68624 [1]	2	47	.360/ .260/.098	G002
PE-65855	2	4700	.400/.345/.250	G002
B2013	2	6300	.600/.475/.340	G002
T8051	2	35	.290/.240/.150	T661
B4003	2	4700	.355/.345/.300	G002
BX8191	2	—	.585/.473/.335	B824
R0003	3	20	.360/.260/.098	G002
PE-65554	4	24	.595/.480/.300	G002
42Z4000	4	36	.500/.400/.250	G002
PE-67501	4	50	.500/.500/.375	G002
PE-68002	4	68	.400/.400/.300	G002
23Z104	4	85	.450/.340/.250	G002
PE-67539	4	140	.500/.500/.375	G002
PE-65542	4	1000	.558/.558/.400	G002
PT5039	4	3600	.502/.431/.520	G002
J0010D11 [2]	4	—	.850/.630/.535	G002
BX8192	4	—	.585/.473/.335	B824
PE-65950	4	4700 (±30%)	.558/.558/.400	G002
PE-65541	4	6000	.558/.558/.400	G002
PE-68613	4	3290	.505/.400/.500	G002
T8052	4	35	.290/.240/.150	T661
T8055	4	5	.290/.240/.150	T661
PE-65857	4	22.5	.600/.475/.340	G002
PE-68627	4	24	.355/.345/.207	G002
T8003	4	33	.450/.360/.215	G002
23Z4000SMD	4	36	.600/.500/.270	G002
PE-65738	4	37	.500/.370/.200	G002
PE-65854	4	47	.360/.340/.098	G002
23Z104SMNL	4	68	.360/.230/.215	G002
PE-67540	4	100	.600/.475/.340	G002
T8006	4	470	.360/.340/.600	T639
T8005	4	4700	.360/.340/.600	T639
PE-65853	4	4700	.720/.550/.390	G002
PE-64683	6	25	.685/.480/.300	G002
23Z106SM	6	68	.450/.360/.215	G002
PE-69011	8	36	.500/.370/.200	G002
23Z105SMNL	8	68	.450/.360/.215	G002
23Z109SM [3]	10	7.5	.600/.420/.215	G002
T8132NL	16	47	1.00/.425/.295	T627
T8008	16	47	1.125/.640/.230	G002

1. ***PCMCIA*** *package (SMT)*
2. ***RJ45*** *Filtered Connector with integrated choke*
3. ***100 kHz****, IV*

***L/W/H** is measured on surface mount parts tip to tip (height includes wash area).

SMT - Surface Mount Package **THT -** Through Hole Package

CONNECTOR PRODUCTS

Pulse Connectors

Pulse is a leader in the design and manufacturing of RJ45, RJ11 and keystone jack CAT5e/6 connectors. Pulse offers an extensive range of connectors that support a wide variety of applications, such as networking (SFP+ and SFP cage and connector), PC peripheral devices (USB, IEEE 1394 connectors), telecommunications (IDC connector, patch panel), and consumer electronics (HDMI connector).

Pulse offers design support for OEM and ODM customers which reduces development time and ensures seamless integration of design, development, production, and time-to-market.

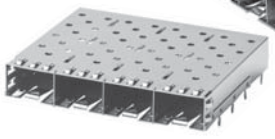
With manufacturing sites throughout Asia and a global network of sales offices, Pulse understands the importance of performance and time-to-market and provides excellent worldwide logistics and technical support for local and international customers.

For more information and detailed product data sheets, go to the Pulse website at *http://www.pulseeng.com/connectors* or contact your local Pulse sales representative.



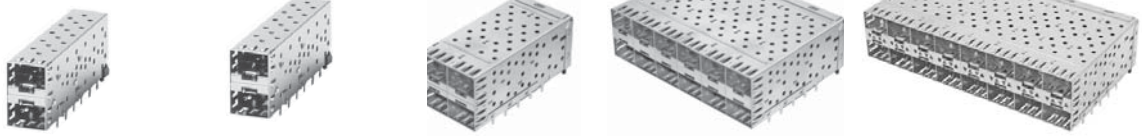
SFP+ Cage			
Part Number	SFPPCAGE001-L	SFPPCAGE011-L	SFPLP001-L
Number of Ports	1X1	1X1	1X1
Connector Type	SFP+ Cage	SFP+ Cage	Light Pipe for SFP+/SFP Cage
Package	Through Hole	Press Fit	—
For PCI (1° tilt) Option	For PCI	For PCI	Not for PCI



SFP Single and Ganged Cages and SFP Connector					
Part Number	E81M0-002-01-LT	SFPCAGE002-L	SFPCAGE005-L	E81M0-WCYJEB-L	SFPCAGE006-L
Number of Ports	1X1	1X1	1X1	1X4	1X10
Connector Type	SFP Connector	SFP Cage	SFP Cage	SFP Cage	SFP Cage
Package	SMT	Press Fit	THT	Press Fit	Press Fit
Solder Temperature	255°C to 265°C 5-10 Seconds	—	255°C to 265°C 5-10 Seconds	—	—
Contact Mating Area Plating	Gold 15 µ"	—	—	—	—

CONNECTOR PRODUCTS



SFP 2XN Stacked					
Part Number	SFP013-L	SFP018-L	SFP004-L	SFP008-L	SFP032-L
Number of Ports	2X1	2X1	2X2	2X6	2X8
Connector Type	SFP Cage & Connector	SFP Cage & Connector	SFP Cage & Connector	SFP Cage & Connector	SFP Cage & Connector
Package	Press Fit	Press Fit	Press Fit	Press Fit	Press Fit
Light Pipe Option	Without Light Pipes	With Light Pipes	With Light Pipes	Without Light Pipes	With Light Pipes

XFP Cage			
Common Features			
Number of Ports	1X1	1X1	1X1
PCB Mount Angle	Side Entry	Side Entry	Side Entry
Features			
Part Number	XFP001-L	XFP002-L	XFP003-L
Cage Type	XFP Cage	XFP Cage	XFP Cage
Package	Press Fit	Press Fit	Press Fit
Package Height (mm)	12.9	15.2	22.2

HDMI (High Definition Media Interface)				
Common Features				
Number of Ports	1X1	1X1	1X1	1X1
PCB Mount Angle	Side Entry	Side Entry	Side Entry	Side Entry
Solder Temperature	255°C to 265°C 5-10 Seconds	255°C to 265°C 5-10 Seconds	255°C to 265°C 5-10 Seconds	255°C to 265°C 5-10 Seconds
Features				
Part Number	E810K-SB0G14-L	E810K-SAY204-L	E810K-SBY104-L	E810K-SAY104-L
Package	THT	THT	SMT	SMT
Panel Stop	NO	YES	NO	YES
Contact Mating Area Plating	Gold 30 µ"	Gold 30 µ"	Gold 30 µ"	Gold 30 µ"

CONNECTOR PRODUCTS

RJ Connectors, Single Port, Top Entry, No Shield						
Part Number	E5266-000032-L	E5288-300042-L	E5244-7U0BS4-L	E5266-7007S2-L	E5288-P00B74-L	E5288-7007S2-L
Number of Positions	6	8	4	6	8	8
Number of Contacts	6	8	4	6	8	8
Package	THT	THT	SMT	SMT	SMT	SMT
Panel Stop	YES	NO	YES	YES	NO	YES
Contact Mating Area Plating	Gold 6 µ"	Gold 6 µ"	Gold 30 µ"	Gold 6 µ"	Gold 30 µ"	Gold 6 µ"
Solder Temperature	230°C to 240°C 5-10 Seconds	230°C to 240°C 5-10 Seconds	255°C to 265°C 5-10 Seconds	255°C to 265°C 5-10 Seconds	255°C to 265° 5-10 Seconds	255°C to 265°C 5-10 Seconds

RJ Connectors, Single Port, Top Entry, Shielded			
Part Number	E5288-320044-L	E5288-320B45-L	E5288-RA0C04-L
Number of Positions	8	8	8
Number of Contacts	8	8	8
Package	THT	THT	THT
Shield EMI Tabs	YES	YES	NO
LED Option	No LEDs	No LEDs	Yellow & Green
Contact Mating	Gold 30 µ"	Gold 50 µ"	Gold 30 µ"
Area Plating Solder Temperature	230°C to 240°C 5-10 Seconds	255°C to 265°C 5-10 Seconds	230°C to 240°C 5-10 Seconds

RJ Connectors, Multiport, Top Entry				
Part Number	E5288-30C142-L	E5288-32C142-L	E5288-32G142-L	E5288-YCCB02-L
Number of Positions	8	8	8	8
Number of Contacts	8	8	8	8
Number of Ports	1X4	1X4	1X8	2X4
Package	THT	THT	THT	THT
Shield Option	No Shield	Nickel Shield	Nickel Shield	Nickel Shield
Contact Mating Area Plating	Gold 6 µ"	Gold 6 µ"	Gold 6 µ"	Gold 6 µ"
Solder Temperature	230°C to 240°C 5-10 Seconds	230°C to 240°C 5-10 Seconds	230°C to 240°C 5-10 Seconds	230°C to 240°C 5-10 Seconds

CONNECTOR PRODUCTS



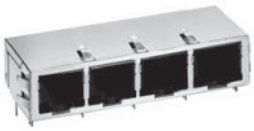

RJ Connectors, Single Port, Side Entry, Surface Mount (SMT)				
Part Number	E5344-HH05Y2-L	E5366-FH05Y4-L	E5388-EH05Y2-L	E5388-UH05V5-L
Number of Positions	4	6	8	8
Number of Contacts	4	6	8	8
Tab	Down	Down	Down	Down
Shield Option	No Shield	No Shield	No Shield	Nickel Shield
Contact Mating Area Plating	Gold 6 µ"	Gold 30 µ"	Gold 6 µ"	Gold 50 µ"
Solder Temperature	255°C to 265°C 5-10 Seconds	255°C to 265°C 5-10 Second	255°C to 265°C 5-10 Seconds	255°C to 265°C 5-10 Seconds





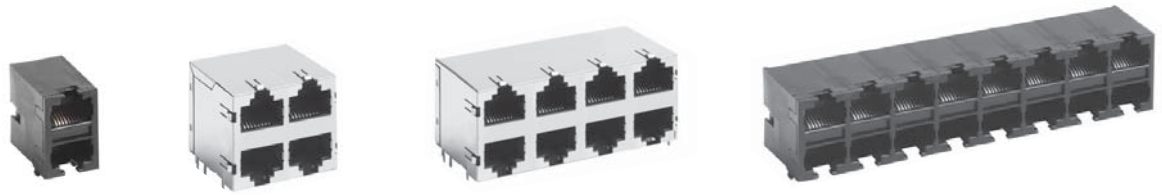
RJ Connectors, Single Port Side Entry, Through Hole (THT)					
Part Number	E5344-000012-L	E5564-00L012-L	E5388-E00212-L	E5908-000L32-L	E5908-150122-L
Number of Positions	4	6	8	10	10
Number of Contacts	4	4	8	8	8
Tab	Down	Up	Down	Down	Down
Shield Option	No Shield	No Shield	No Shield	No Shield	Nickel Shield
Contact Mating Area Plating	Gold 6 µ"	Gold 6 µ"	Gold 6 µ"	Gold 6 µ"	Gold 6 µ"
Solder Temperature	230°C to 240°C 5-10 Seconds	230°C to 240°C 5-10 Seconds	230°C to 240°C 5-10 Seconds	255°C to 265°C 5-10 Seconds	230°C to 240°C 5-10 Seconds






RJ Connectors, Multi-Port, 1XN, Side Entry, Through Hole (THT)				
Part Number	E5608-00A0Q2-L	E5608-00C062-L	E5908-25C5Q2-L	E5908-15A2J4-L
Number of Positions	10	10	10	10
Number of Contacts	8	8	8	8
Number of Ports	1X2	1X4	1X4	1X2
Tab	Down	Down	Down	Down
Shield Option	No Shield	No Shield	Nickel Shield	Nickel Shield
Contact Mating Area Plating	Gold 6 µ"	Gold 6 µ"	Gold 6 µ"	Gold 30 µ"
Solder Temperature	230°C to 240°C 5-10 Seconds	230°C to 240°C 5-10 Seconds	255°C to 265°C 5-10 Seconds	230°C to 240°C 5-10 Seconds

CONNECTOR PRODUCTS



RJ Connectors, Multi-Port, 2XN, Side Entry, Through Hole (THT)					
Part Number	E5908-0T0343-L	E5908-17A133-L	E5908-57C122-L	E5908-5VC153-L	E5908-0TG0U4-L
Number of Positions	10	10	10	10	10
Number of Contacts	8	8	8	8	8
Number of Ports	2X1	2X2	2X4	2X4	2X8
Shield Option	No Shield	Nickel Shield	Nickel Shield	Nickel Shield	No Shield
Contact Mating Area Plating	Gold 15 µ"	Gold 15 µ"	Gold 6 µ"	Gold 15 µ"	Gold 30 µ"
Solder Temperature	255°C to 265°C 5-10 Seconds	255°C to 265°C 5-10 Seconds	230°C to 240°C 5-10 Seconds	255°C to 265°C 5-10 Seconds	230°C to 240°C 5-10 Seconds

RJ Connectors, Side Entry with LEDs, Through Hole (THT)						
Part Number	E5J88-10L054-L	E5J88-34L022-L	E5J88-44AJ22-L	E5J88-14C0B4-L	E5J88-A4L2F2-L	E5J88-C4C2B5-L
Number of Positions	8	8	8	8	8	8
Number of Contacts	8	8	8	8	8	8
Number of Ports	1X1	1X1	1X2	1X4	2X1	2X4
LED Option	Yellow & Green	Green & Yellow	Green/Yellow & Green/Yellow	Yellow & Green	Green & Green	Green & Yellow
Tab	Up	Up	Up	Up	—	—
Shield Option	No Shield	Nickel Shield	Nickel Shield	Nickel Shield	Nickel Shield	Nickel Shield
Contact Mating Area Plating	Gold 30 µ"	Gold 6 µ"	Gold 6 µ"	Gold 30 µ"	Gold 6 µ"	Gold 30 µ"
Solder Temperature	230°C to 240°C 5-10 Seconds	230°C to 240°C 5-10 Seconds	255°C to 265°C 5-10 Seconds	230°C to 240°C 5-10 Seconds	255°C to 265°C 5-10 Seconds	230°C to 240°C 5-10 Seconds

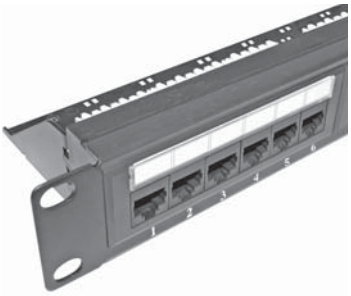
RJ Connectors, CAT. 5, Through Hole (THT)					
Part Number	E6588-200124-L	E6588-600P22-L	E6588-WA0B44-L	E6588-G5P124-L	E6588-GARUA3-L
Number of Positions	8	8	8	8	8
Number of Contacts	8	8	8	8	8
Number of Ports	1X1	1X1	1X1	2X2	2X4
LED Option	No LEDs	Green & Yellow	Green/Yellow & Green	No LEDs	Yellow & Green
Shield Option	No Shield	No Shield	Nickel Shield	Nickel Shield	Nickel Shield
Contact Mating Area Plating	Gold 30 µ"	Gold 6 µ"	Gold 30 µ"	Gold 30 µ"	Gold 15 µ"
Solder Temperature	230°C to 240°C 5-10 Seconds	230°C to 240°C 5-10 Seconds	230°C to 240°C 5-10 Seconds	255°C to 265°C 5-10 Seconds	230°C to 240°C 5-10 Seconds

CONNECTOR PRODUCTS




USB Connectors				
Part Number	E8144-A01321-L	E8144-101021-L	E8144-B01321-L	E828B-2201P2-L
Connector Type	USB Type A	USB Type A	USB Type B	RJ45 over Dual USB Type A
Number of Ports	1X1	2X1	1X1	3X1
PCB Mount Angle	Side Entry	Side Entry	Side Entry	Side Entry
Shield Plating Material	Nickel	Nickel	Nickel	Nickel
Connector Material Color	White	Black	White	Black
Contact Mating Area Plating	Gold 3 µ"	Gold 3 µ"	Gold 3 µ"	Gold 6 µ"
Solder Temperature	230°C to 240°C 5-10 Seconds	230°C to 240°C 5-10 Seconds	230°C to 240°C 5-10 Seconds	230°C to 240°C 5-10 Seconds



Patch Panel & Keystone Jack				
Part Number	E61KS-4002J5-L	E61KS-40A205-L	E6164-YWABJ4-L	E48AM-M3LY35-L
Number of Ports	—	—	—	24 Ports
Number of Positions	8	8	6	—
Speed	CAT 6	CAT 6	CAT 3	CAT 6

POWER MAGNETICS

Pulse offers a complete range of magnetics for both high-frequency switching and low-frequency laminated power supply applications. The switching power magnetics include power inductors, power transformers, current sense magnetics, gate drive transformers and common mode chokes. The laminated power magnetics include both encapsulated and open-frame transformers, as well as ignition transformers for heating and ventilation. For complete product information, see the "Switching Power Magnetics" or the "Laminated Transformers" catalogs.

Pulse also designs and manufactures a wide array of custom and semi-custom magnetics. Contact Pulse Power Applications Engineering for more information.

NOTE: For additional listings of Pulse Power magnetics, locate other Power data sheets at this URL: *http://www.pulseeng.com/index.php?848.*

OVERVIEW: PULSE POWER MAGNETICS

Power Inductors

Surface Mount (SMT)

- Unshielded Drum Core Inductors (up to 30 A)
- Shielded Drum Core Inductors (up to 14 A)
- Power Bead Inductors (up to 45 A)
- Flat Coil Inductors (up to 35 A)
- Planar and Wirewound Inductors (up to 73 A)
- Toroid Inductors (up to 40 A)

Through Hole (THT)

- Toroid Inductors (up to 48 A)
- Power Cube Inductors (up to 50 A)
- Power Bead Inductors (up to 80 Apk)

High-Frequency Switch Mode Transformers

Surface Mount (SMT)

- Planar Transformers (30 W, 75 W, 140 W, 250 W)
- Wirewound Transformers (Up to 200 W)
- Custom transformers available upon request

Through Hole (THT)

- Wirewound Transformers (Up to 500 W)
- Custom transformers available upon request

Gate Drive Transformers

Surface Mount (SMT)

- Operational and Basic Insulation for DC/DC applications (1500 VDC/1500 VRMS)

Through Hole (THT)

- Reinforced Insulation for AC/DC applications (3000 Vrms)

Current Sense Magnetics

Surface Mount (SMT)

- Operational Insulation (500 VRMS)
- Five platforms (4 A, 10 A, 15 A, 20 A, 35 A)

Through Hole (THT)

- Reinforced Insulation (3000 VRMS)
- Multiple platforms (up to 30 A)

Common Mode Chokes

Surface Mount (SMT)

- Up to 14 A
- 500 VRMS and 1500 VRMS Isolation
- Over 10 package sizes available
- Customer designs available upon request

Through Hole (THT)

- Up to 23 A
- 3000 VRMS Isolation
- Multiple package sizes available

Laminated Transformers

Encapsulated Transformers

- Up to 50 VA
- THT, Low-Profile and Bracket Mount options

Open-Frame Transformers

- Up to 140 VA
- THT, Low-Profile, and Chasis Mount options

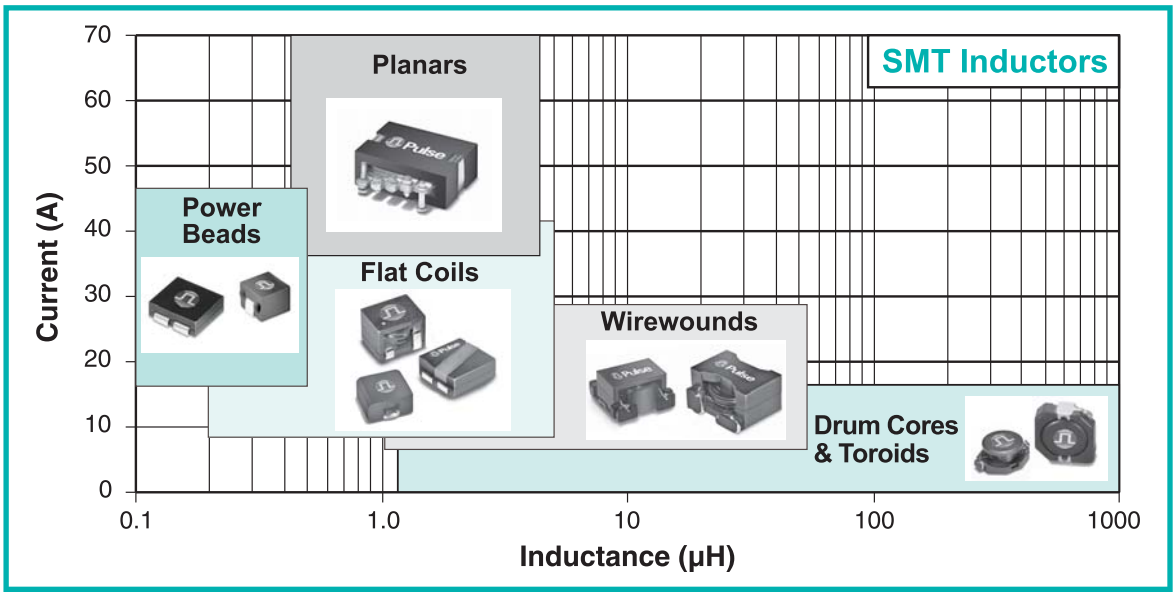
Ignition Transformers

- Up to 23 kV

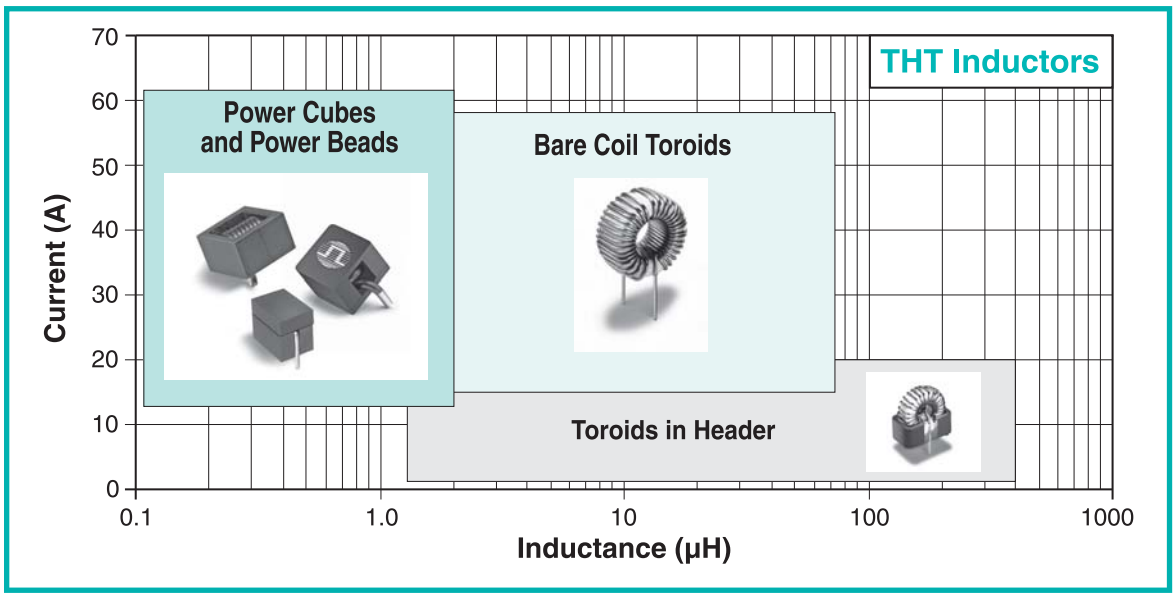
POWER MAGNETICS

SURFACE MOUNT & THROUGH HOLE INDUCTOR OVERVIEW

Power Inductor Selection Charts, Surface Mount and Through-Hole



Power Beads - low inductance (<.5 µH) - high current (>25 A) applications
Flat Coils - mid-inductance (.5 µH to 4 µH) - medium current (15-30 A) applications
Planars - mid-inductance (.5 µH to 4 µH) - high current (>25 A) applications
Wirewound - high inductance (>5 µH) - medium current (15-30 A) applications
Unshielded Drum Core Inductors - typically for lower current, portable or small power applications
Shielded Drum Core Inductors - typically for lower current, portable or small power applications
Toroid Inductors - versatile multi-use platforms for single and dual inductors

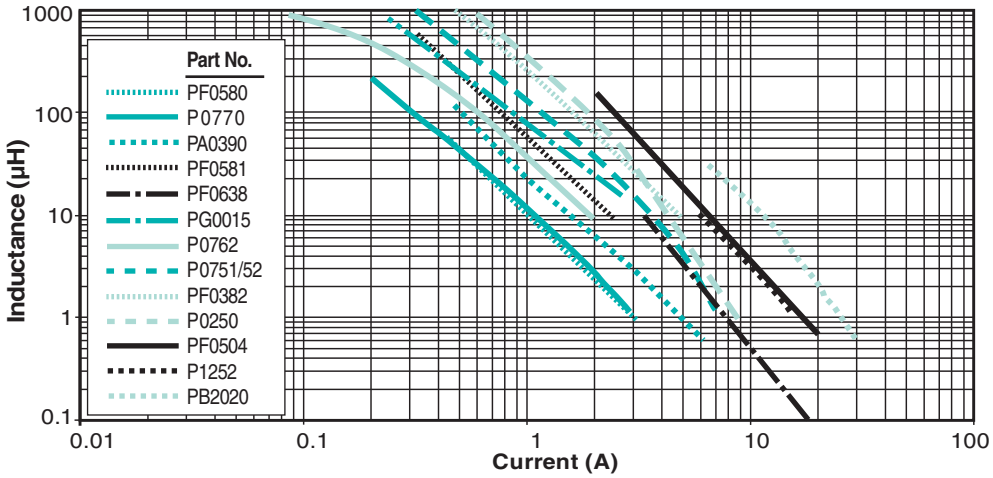


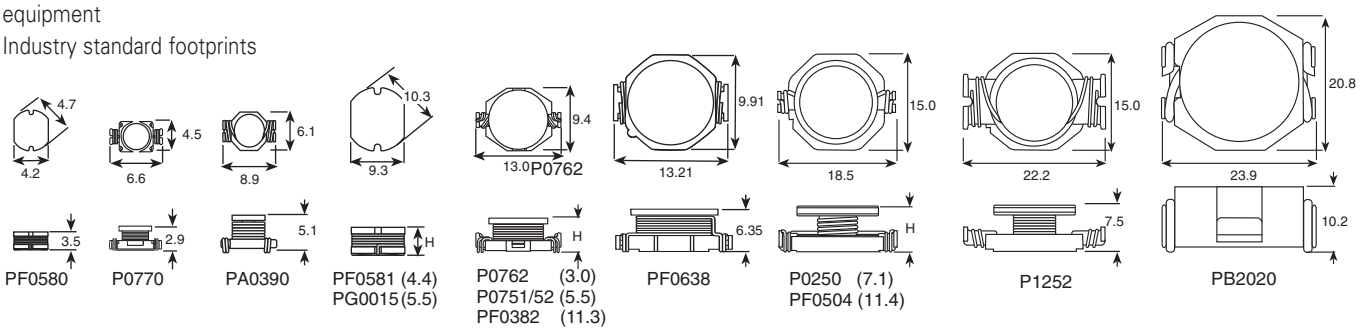
Power Cube Inductors - high-current inductors for use in low inductance applications where board space and height are critical
Bare Coil Toroids - low cost, general purpose inductors for mid- to high-current applications where over all size is a less critical factor
Toroid in Header Inductors - general purpose inductors for low to medium current ranges

POWER MAGNETICS

PRODUCT OVERVIEW: SMT UNSHIELDED DRUM CORE INDUCTORS

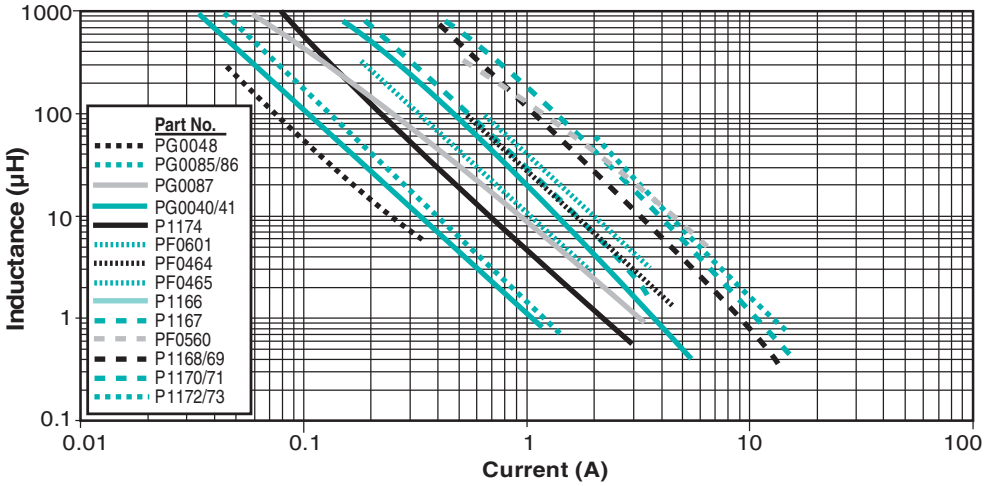
- Up to 30 Adc
- Typically for lower current, higher inductance applications
- Lower power DC/DC converters and filter inductors
- Portable and battery powered equipment
- Industry standard footprints

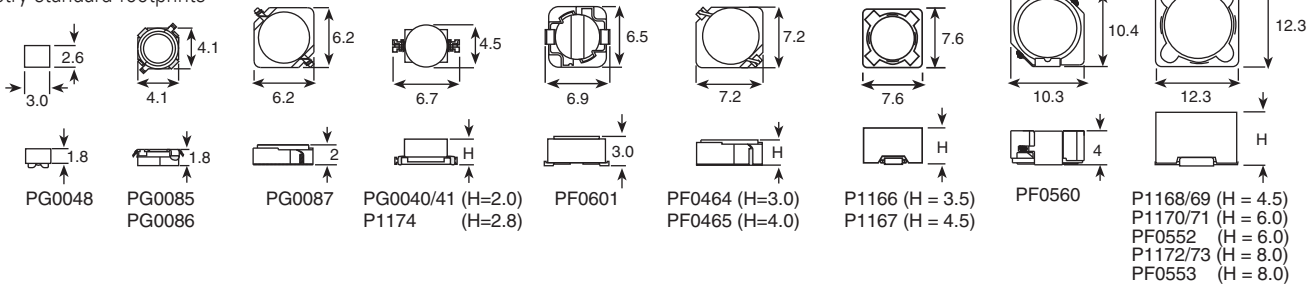




PRODUCT OVERVIEW: SMT SHIELDED DRUM CORE INDUCTORS

- Up to 14 Adc
- Typically for lower current, higher inductance applications requiring low EMI
- Lower power DC/DC converters
- Portable and battery powered equipment
- Industry standard footprints

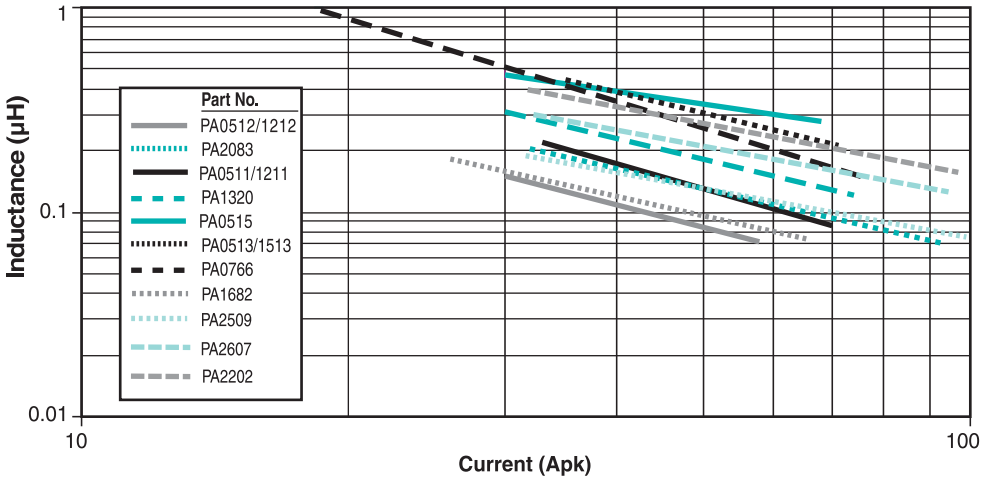


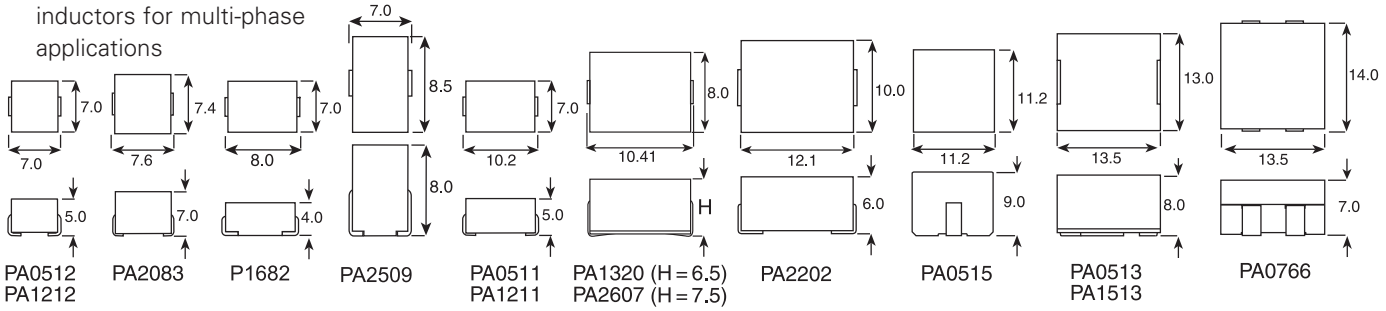


POWER MAGNETICS

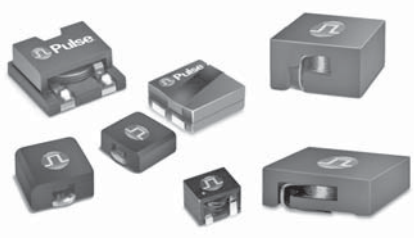
PRODUCT OVERVIEW: SMT POWER BEAD INDUCTORS

- Up to 70 A
- Typically for high current (>30 A) applications requiring inductance values below 0.5 µH
- VRM/VRD and DDR computing applications for server, workstation, portable and desktop
- Integrated and coupled inductors for multi-phase applications

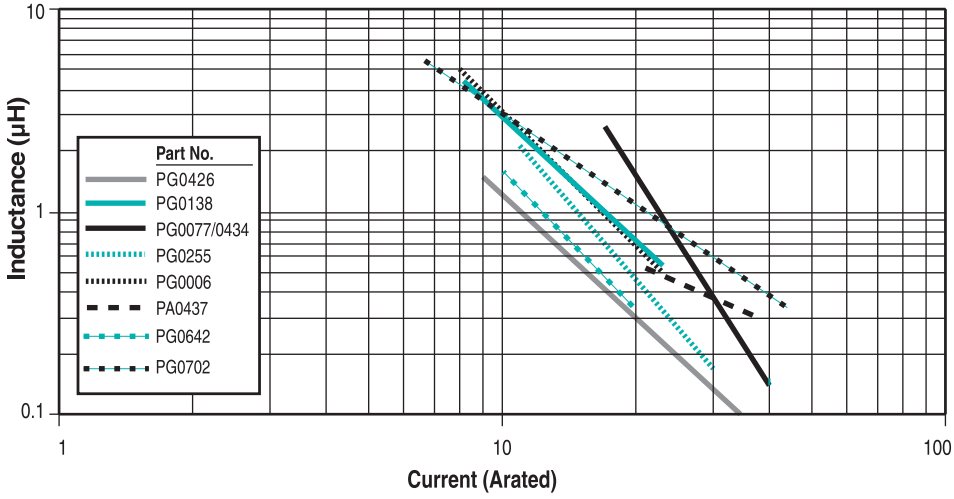


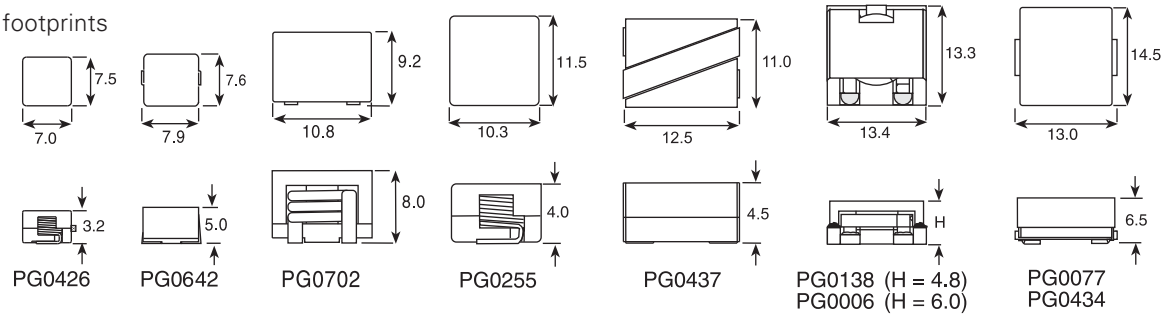


PRODUCT OVERVIEW: SMT FLAT COIL INDUCTORS



- Up to 38 Adc
- Typically for mid- to high-current applications requiring inductance between 0.5 µH and 5.0 µH
- Portable computing, higher power DC/DC converters and Telecom applications
- Industry standard footprints

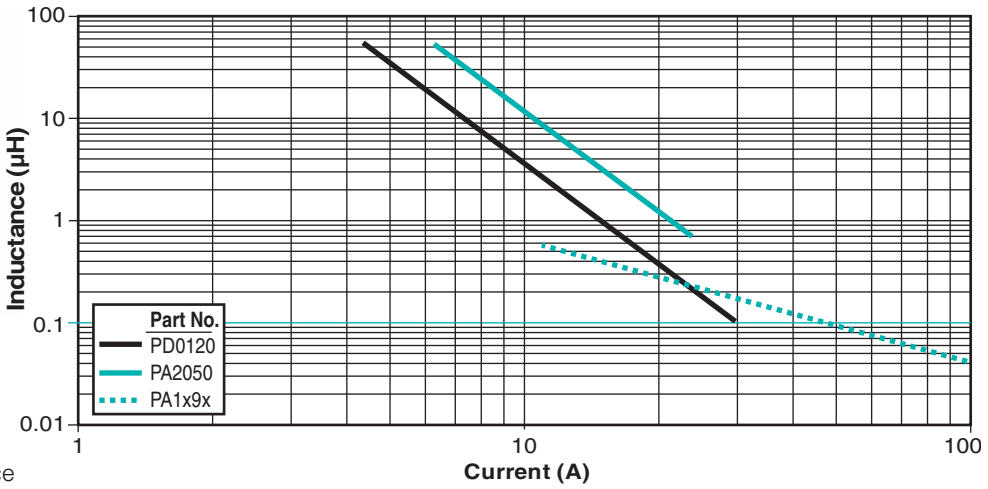


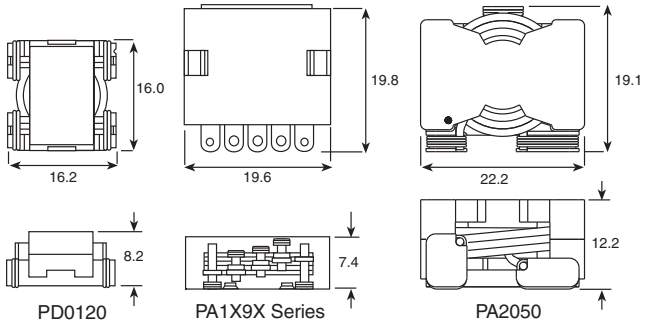


POWER MAGNETICS

PRODUCT OVERVIEW: SMT PLANAR & WIREWOUND INDUCTORS

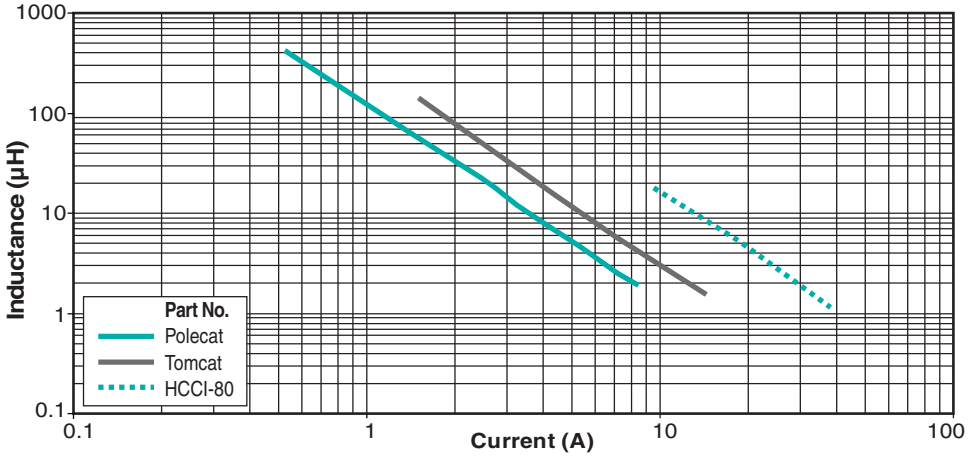
- Up to 73 A
- Typically for high current (>20 A) applications requiring mid-inductance values (1.0 µH to 15 µH)
- Output inductors for isolated DC/DC inductors

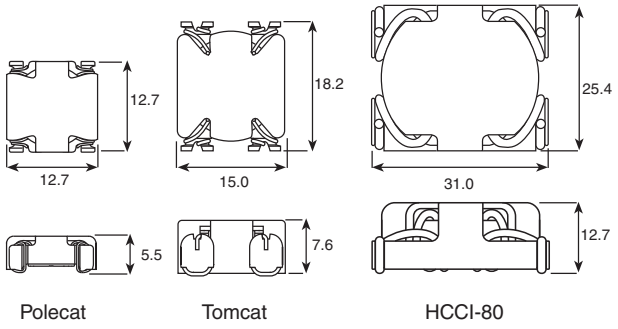




PRODUCT OVERVIEW: SMT TOROID INDUCTORS

- Up to 38 ADC
- Single and dual inductors
- General purpose DC/DC converters and EMI filters
- Versatile and cost-effective

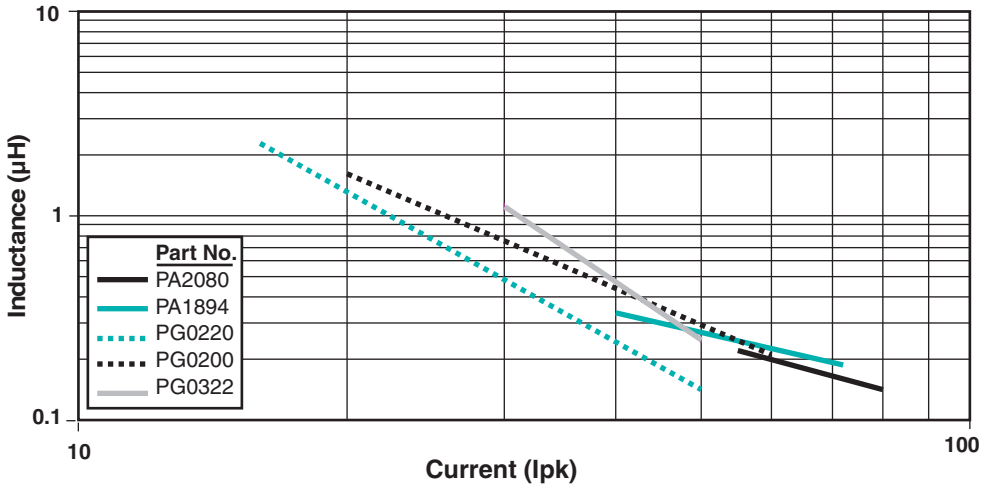


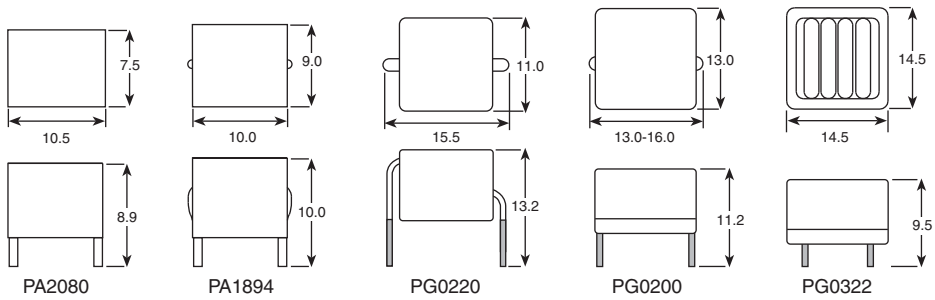


POWER MAGNETICS

PRODUCT OVERVIEW: THT POWER CUBE AND POWER BEAD INDUCTORS

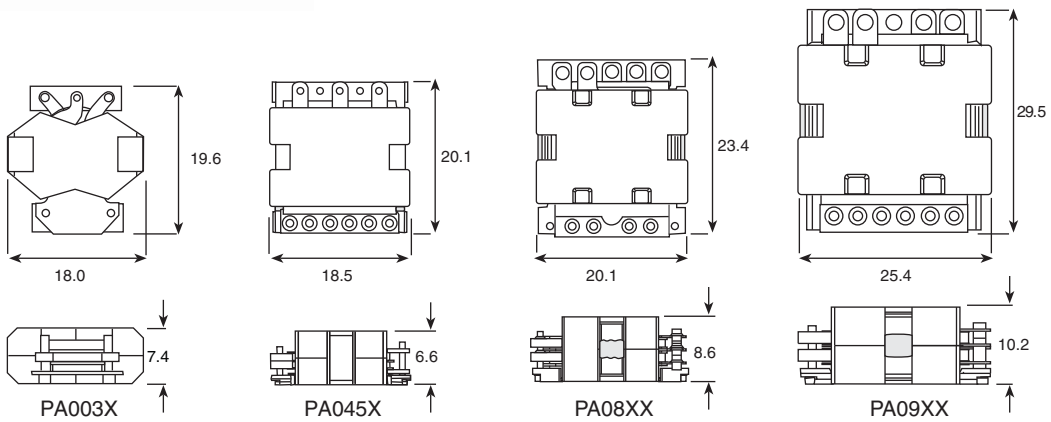
- Up to 45 ADC
- Typically for mid- to high-current applications (10 A to 45 A) requiring lower inductance (0.2 µH to 3.0 µH)
- VRD applications for desktops
- Low profile (<10mm)





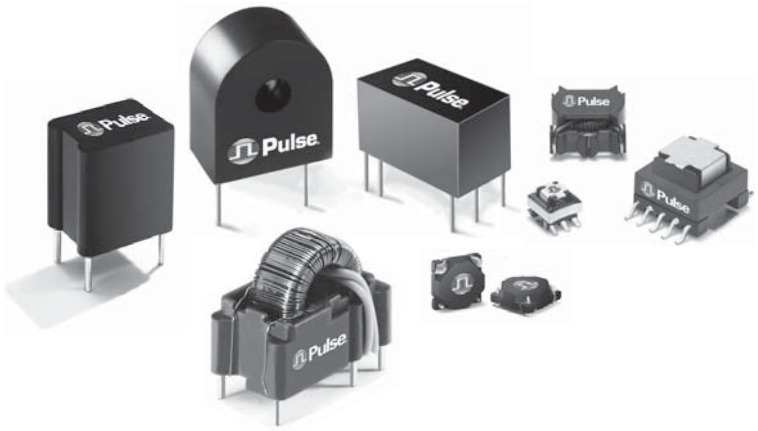
PRODUCT OVERVIEW: HIGH FREQUENCY PLANAR TRANSFORMERS

- Transformers for high-density DC/DC converters (30 W to 300 W)
- Low profile construction
- Low leakage inductance
- Four package sizes and over 400 winding configurations
- Basic/operational insulation

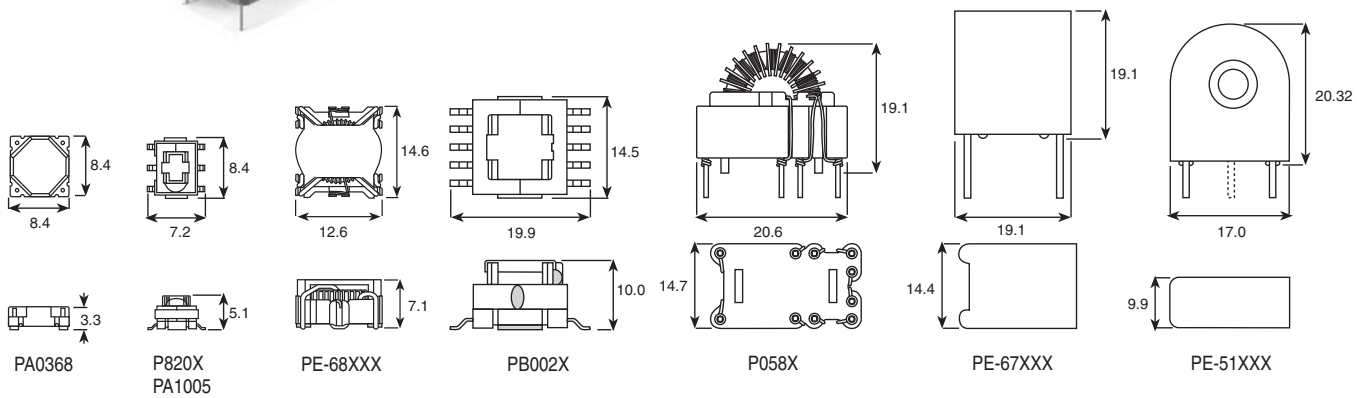


POWER MAGNETICS

PRODUCT OVERVIEW: CURRENT SENSE MAGNETICS



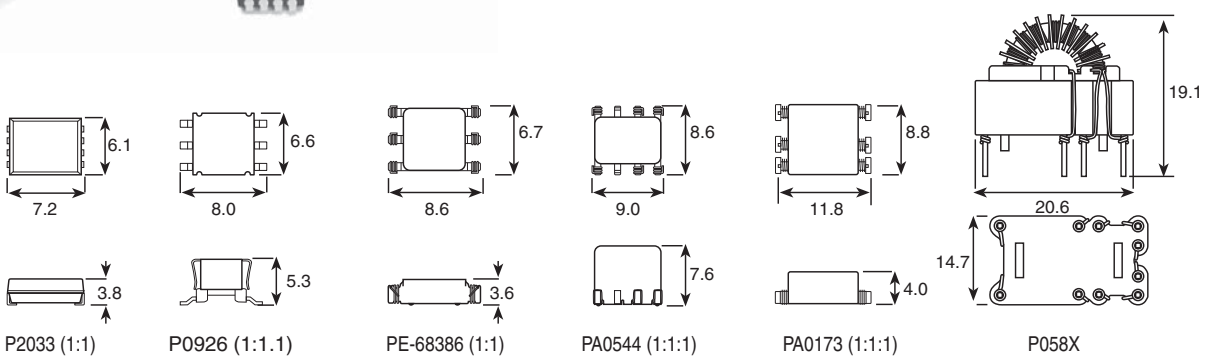
- Up to 35 A
- Wide range of winding ratios
- Versatile and cost-effective



PA0368 | P820X PA1005 | PE-68XXX | PB002X | P058X | PE-67XXX | PE-51XXX

PRODUCT OVERVIEW: GATE DRIVE TRANSFORMERS

- Smallest footprints in the industry
- Operational, basic and reinforced insulation systems
- Versatile and cost-effective
- Custom winding ratios available

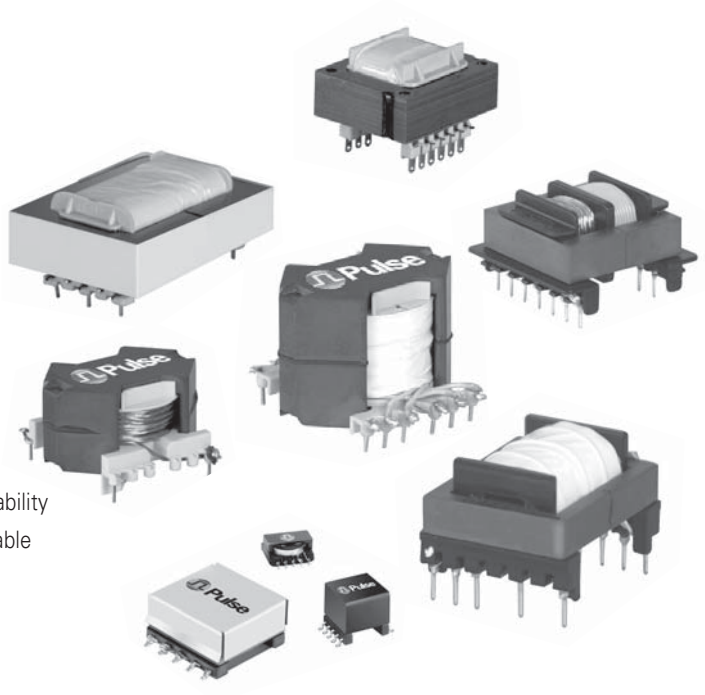


P2033 (1:1) | P0926 (1:1.1) | PE-68386 (1:1) PA0264 (1:1:1) | PA0544 (1:1:1) PA0184 (1:1) PA0297 (2:1:1) PA0510 (2.5:1:1) | PA0173 (1:1:1) PA0185 (1:1) | P058X

POWER MAGNETICS

PRODUCT OVERVIEW: HIGH FREQUENCY SWITCH MODE TRANSFORMERS

- Layer - wound transformers and power factor correction chokes for a wide range of applications: consumer electronics, white goods, Set-top boxes, television, computing, telecommunications, displays, DC/DC converters, PoE (Power over Ethernet), and many others
- Most popular core shapes and bobbin combinations available
  - — Ferrite core platforms for transformers: EE, EF, EFD, EP, ER, EER, ETD, RM, U and I
  - — Laminated, steel core materials for power factor chokes
  - — Bobbins: horizontal or vertical, through hole or surface mount, multiple pin count options
- Available as catalog products and custom designs
- Many are designed in support of third Party IC chipsets
- Worldwide design and support with high volume manufacturing capability
- Safety agency certifications with UL, CSA, IEC, TÜV, and VDE available



PRODUCT OVERVIEW: COMMON MODE CHOKES

- Up to 24 ADC
- SMT and THT
- AC/DC and DC/DC common mode filters
- Versatile and cost-effective

POWER MAGNETICS

PRODUCT OVERVIEW: LAMINATED TRANSFORMERS

With the addition of encapsulated 50/60 Hz transformers to the existing product line of open frame transformers, Pulse now offers a complete line of laminated transformers for all your low power, linear transformer requirements. Pulse offers power ratings from 0.08 VA to 175 VA, both fully encapsulated and open frame transformers, and split bobbin designs with a wide variety of domestic and international agency approvals. Pulse is truly the one-stop-shop for all your 50/60 Hz transformer needs.

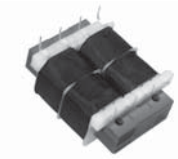
Another new product line in the Pulse family is the Ignition Transformer, used in heating/ventilation applications for gas/oil burners and white goods. The 2003 European RoHS Directive is being applied to Pulse products, indicated by an NL suffix added to the end of the part number for most products.

This catalog serves as an overview for the Pulse Laminated Transformers product line. Contact Pulse Power Applications Engineering by e-mail *prodinfo_power@pulseeng.com,* for more information.

Relative Comparison of Encapsulated vs. Open-frame Laminated Transformers

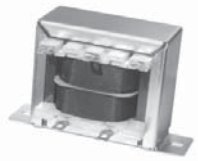
Type	Heat (same installation size)	Noise	Space	Resistance to Fluids	Resistance to Vibration	Recycling	High Voltage Stability
Encapsulated	++	++	+	++	+	o	++
Open Frame	o	o	o	+	+	++	o

Mini-Line - THT* (EE20)
- Up to 0.5 VA
- Temperature class t_a 70°C/B



Low Profile Plug-In
- Print circuit mounting
- 1500 V, primary to secondary isolation
- Low profile design
- Vacuum impregnated
- Baked resin

Print-Line - THT* (EI30-EI54)
- Up to16 VA
- Temperature class t_a 70°C/B (EI30/EI42)
- Temperature class t_a 40°C/B (EI48/EI54)



Chasis Tran
- Channel frame mounting
- 2500 V, primary to secondary isolation
- Non-concentric design
- Vacuum impregnated
- Baked resin

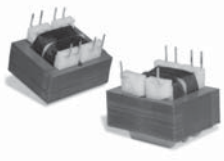
Low Profile - THT* (UI30-UI39)
- Up to 30 VA
- Temperature class t_a 40°C/B

International PC Plug-In
- PC board plug-in mounting
- Dual bobbin, high (4000 V) primary to secondary isolation
- Non-concentric design
- Vacuum impregnated
- Baked resin

With Mounting Brackets* (EI42-EI66)
- Up to 50 VA
- Temperature class t_a 70°C/B (EI42)
- Temperature class t_a 40°C/B (EI48/EI66)

International High Power
- Chassis mounting
- Dual bobbin; high (4000 V) primary to secondary isolation
- Non-concentric design
- Vacuum impregnated
- Baked resin

Compact Power Supplies
- Up to 60 VA
- Temperature class t_a 40°C/B
- Din-rail Mounting



Split Bobbin, Horizontal Plug-In
- Print circuit mounting
- 2500 V_{RMS} Hipot
- Non-concentric design
- Vacuum impregnated
- Baked resin

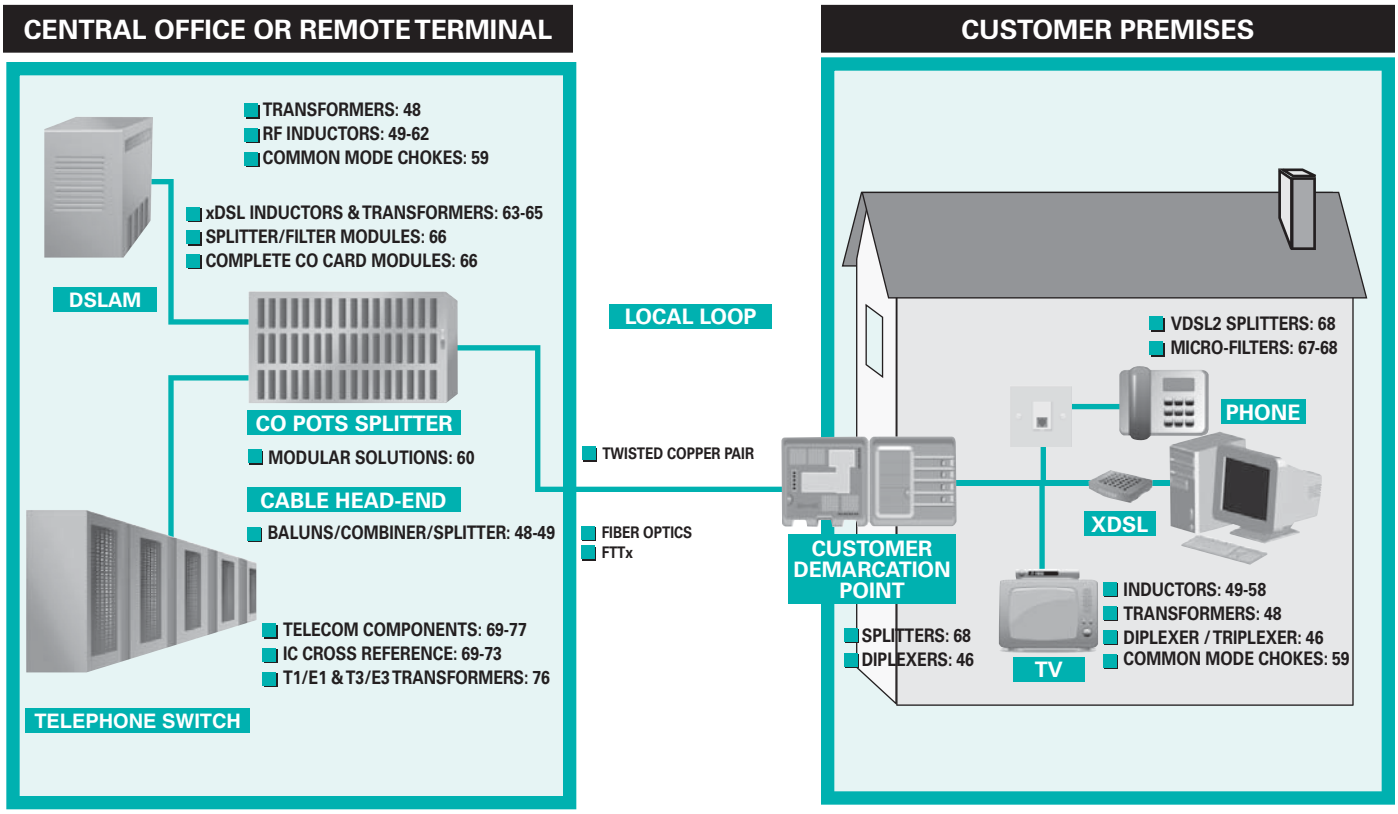
Ignition Transformers
Spark-Line - THT
- Up to 23 kV
- Ambient temperature 70°C/B
- Up to 2 HT connections
- Compact design
- Custom designs available

Concentric, Vertical Profile, PC Plug-In
- Industry standard footprint
- 1500 V primary to secondary isolation
- Concentric vertical mount
- Vacuum impregnated
- Baked resin

*Potted under vacuum, two-chamber bobbin, custom designs available upon request, THT = Through Hole.

TELECOMMUNICATIONS

MEDIA NETWORK ARCHITECTURE: PAGE GUIDE

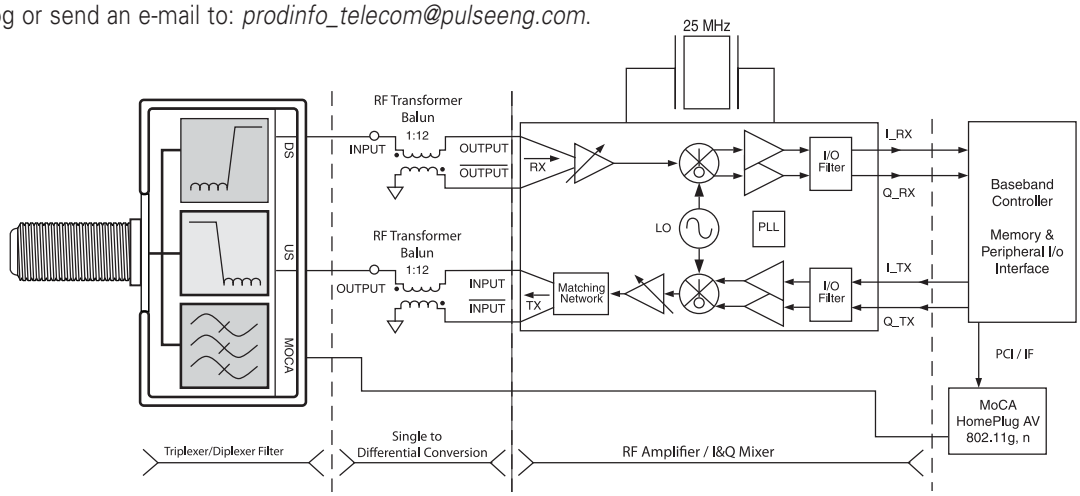


RF COMPONENTS

Pulse offers a comprehensive line of RF magnetic components for use in CATV/ Hybrid Fiber Coax applications for set-top boxes and gateway devices, for TELCO TV in gateway devices, and FTTP ONT (optical network termination) units as well as emerging in-home networking products. RF components are also used in medical and industrial devices and equipment.

Platforms consist of diplexer filters that can also include integrated F-connectors, transformers/baluns, single-stage filters, directional couplers and RF splitter/ combiners. Pulse provides both surface mount and through hole components that have minimal insertion loss and excellent return loss to ease the development and manufacturing of today's RF network equipment.

NOTE: RoHS versions of some of the products offered in this section are available. To order, add NL at the end of the part number. For more information, call and ask for "Broadband RF and Wireless Applications." Local telephone numbers are on the back cover of this catalog or send an e-mail to: *prodinfo_telecom@pulseeng.com*.



RF, BROADBAND, CATV, TELCO TV APPLICATIONS

DIPLEX FILTERS with Integrated F-Connectors

DOCSIS System

Part Number	Low Pass (MHz)	High Pass (MHz)	Data Sheet
C6026	5-44	58-860	C236
CX6026	5-44	58-860	C236
C6035	5-42	88-860	C236
C6036NL	10-55	90-770	C236
C6086NL	5-65	108-860	C236

MoCA IC Cross Reference

IC House	RF Front End	Baseband Controller	Triplexer	Diplexer	RF Transformer Balun
Entropic	EN1010	EN2x10 EN2x11 EN3x30 EN3x11	C6113NL	C6058 CX6155NL C6131SNL C6039	CX2163LNL

Pulse has been a participating member

MoCA
Multimedia over Coax Alliance
Since 2003

DIPLEX FILTERS with Integrated F-Connectors

MoCA Application

Part Number	Low Pass (MHz)	High Pass (MHz)	Data Sheet
C6039	5-860	975-1525	C250
C6131SNL	5-1002	1125-1525	C250

C6058	975-1025	1125-1525	C252
C6141NL	975-1025	1125-1525	C252

CX6077	5-860	975-1025	C253
CX6155NL	5-870	975-1525	C253

TRIPLEX FILTERS with Integrated F-Connectors

Part Number	Low Pass (MHz)	Band Pass (MHz)	High Pass (MHz)	Data Sheet
C6113NL	5-42	54-1002	1125-1525	C257

RF COMPONENTS

RF, BROADBAND, CATV, TELCO TV APPLICATIONS

Diplexer Filters

Part Number	Frequency [1] (MHz)	Insertion Loss (dB)	Return Loss (dB)	Package Style	Data Sheet
					
SF9023	5-42/52-750	1.5	18 or better	SMT	C202
C6001	5-42/52-870	<1.0	20 or better	SMT	C204
C6001L [3]	5-42/52-870	<1.0	20 or better	SMT	C204
CX6006L [3]	5-65/85-870	<1.2	16 or better	SMT	C213
CX6006	5-65/85-870	<1.2	18 or better	SMT	C213
					
CX6007	5-42/88-864	<1.0	14 or better	SMT	C211
CX6008 [1]	5-65/85-864	1.0 TYP	14/9	SMT	C216
CX6002 [1]	5-42/54-864	<1.5	14/9	SMT	C230
					
CX6020 [1, 2]	5-42/54-864	<1.5	14/9	SMT	C248

1. ***Low*** *Pass Port/High Pass Port*
2. ***Leadless***
3. ***L*** *= Low cost*

Directional Couplers

Part Number	Frequency (MHz)	Z (Ω)	Coupling Nom. (dB ±0.5)	Mainline Loss (dB TYP)	Data Sheet
					
A5807	5-900	75	10.0	1.1	A102
A5808	5-900	75	7.5	1.6	A102
A5809	5-900	75	12.0	0.9	A102
A5816	5-900	75	16.0	0.8	A102
A5908	5-900	75	7.5	1.6	A102
A5910	5-900	75	10.0	1.1	A102
A5912	5-900	75	12.0	0.9	A102
A5916	5-900	75	16.0	0.8	A102
					
C3027	5-900	75	16.0	0.6	C207
					
C3108	5-900	75	7.5	1.6	C243
CX3042	5-1000	75	6.0	1.76	C243
					
CX3099	10-1000	50	16.0	0.8	C234

RF Splitter/Combiners: 2-Way, 0°

Part Number	Frequency (MHz)	Isolation (dB TYP)	Return Loss (TYP)	Insertion Loss (dB TYP)	Data Sheet
					
CX4004	5-65	40	30	0.22	C212
CX4004L [2]	5-65	40	30	0.22	C212
CX4012L [2]	5-1000	20	16	0.65	C220
CX4012	40-1000	27	22	0.65	C220
C4036	5-1000	25	31	0.48	C241
					
CX4011	5-1000	25	26	0.65	C218
					
C4020 [1]	96-864	25	9	1.7	C222
					
C4006	5-1000	27	24	0.48	C223
CX4005	5-250	24	27	0.45	C226
CX4024	5-1000	30	30	0.8	C220

1. ***Differential*** *splitter/combiner*
2. ***L*** *= Low cost*

Low Pass Filters

Part Number	In/Out Impedance (Ω)	Passband (MHz)	Insertion Loss (dB MAX)	Return Loss (dB MIN)	Data Sheet
					
B5004	75	5-42	1.0	18.0	B907
B5005	75	5-65	1.0	17.5	B907
					
C5002	50	1-49	1.0	16.0	C208
					
C5001	150	1-50	1.2	15.0	C209
C5003	150	1-80	1.2	15.0	C209
C5005	75	1-59.5	1.0	15.0	C209
CX5013	75	1-65	1.5	15.0	C209

SMT - Surface Mount Package **THT** - Through Hole Package

RF COMPONENTS

RF, BROADBAND, CATV, TELCO TV APPLICATIONS

RF Transformers/Baluns

Part Number	Impedance Ratio	Bandwidth (MHz TYP) 3 dB	2 dB	1 dB	Data Sheet
					
C2022	1:4CT	0.100-500	0.150-390	.300-220	C200
C2020	1CT:1CT	0.150-210	.200-150	.350-90	C200
CX2038L[1, 2]	1:1	—	Up to 1500	4.5-1000	C203
CX2039L[1, 2]	1:1	—	Up to 1500	4.5-1000	C203
CX2040L[1, 2]	1:1	1.5-500	2.5-400	5-350	C203
CX2041[2]	1:1	0.05-450	0.75-300	0.1-200	C203
CX2043L[1, 2]	1:1.5	—	—	1-1000	C203
CX2044L[1, 2]	1:1.5	—	1-500	5-100	C203
CX2039	1:1 (50 Ω)	—	Up to 1500	4.5-1000	C203
CX2038	1:1 (75 Ω)	—	Up to 1500	4.5-1000	C203
CX2045L[1, 2]	1:2	—	—	3-300	C203
CX2047L[1, 2]	1:4	—	.5-300	1.5-100	C203
CX2047[2]	1:4CT	—	0.50-300	1.5-100	C203
CX2049L[1, 2]	1:8	2-500	—	—	C203
CX2029	36:1CT	0.05-21	—	—	C203
CX2155	1:1	—	—	5-500	C238
CX2163LNL[3, 4]	1:1	800-1900	—	900-1400	C203
					
CX2050	1:1	0.15-400	—	—	C206
CX2054	1:4CT	0.20-350	—	—	C206
CX2059	1:9	0.15-200	—	—	C206
CX2052	1:1CT	0.08-200	—	—	C206
					
CX2068	1:12.25	0.1-150	0.5-100	1.5-50	C206
CX2060	1:1	0.15-400	—	—	C206
CX2062	1:1CT	0.08-200	—	—	C206
CX2064	1:4CT	0.20-350	—	—	C206
CX2065	1:4CT	0.02-250	—	—	C206
					
CX2032[2, 3]	1:4CT	—	—	5-165	C210
C2042[2]	1CT:1CT	0.30-300	0.40-200	0.5-90	C210
CX2157[2]	1:1CT	0.4-800	0.5-700	1-600	C232
CX2158[2]	1:4CT	2-775	3-600	6-250	C232
CX2141[2]	4CT:1CT	0.3-300	0.4-200	0.5 - 90	C232
CX2142[2]	1:1	—	—	50-870	C232
C2160[2]	2.65:1	Up to 130	Up to 100	0.40-70	C232
					
CX2078	1:1	—	—	5-500	C215
CX2081	1:1.5 CT	5.0-125	—	—	C215
CX2156	1:1	—	—	2.3-2700	C215
CX2148	1:1	—	—	5-500	C224
CX2148A	1:1	—	—	5-500	C224
C2073[2]	1:4CT	—	1-500	1-200	C224
C2073A[2]	1:4CT	—	1-500	1-200	C224
CX2072	1:1	—	Up to 1500	10-1000	C227
CX2076[2]	1:1	—	Up to 2150	—	C233

1. L = low cost ***3. Low** profile*
2. Leadless ***4. NL** = lead free*

Continued next column

RF Transformers/Baluns *(continued)*

Part Number	Impedance Ratio	Bandwidth (MHz TYP) 3 dB	2 dB	1 dB	Data Sheet
					
CX2149[2]	1:1	—	Up to 1500	10-1200	C217
CX2024[2]	1:1	—	Up to 1500	10-1200	C217
					
CX2147	1:1CT	—	—	1-160	C242
CX2074	1:4CT	—	—	5-170	C242
					
C2139NL[2, 4]	1:1	—	—	5-1000	C244

1. L = low cost ***3. Low** profile*
2. Leadless ***4. NL** = lead free*

Fibre Channel (SAN), Dual Serial Data Interface Transformers

Part Number	Turns Ratio	Package Style [1]	L/W/H (in.) *	Data Sheet
				
A6801[2]	1CT:1CT	16-pin SOIC	.500/.295/.220	A100
A6802	1:1	16-pin SOIC	.500/.295/.220	A100
PE-65507NL[2]	1:1	16-pin SOIC	.500/.270/.220	A101
PE-65508NL[2]	1:1	16-pin SOIC	.500/.270/.220	A101

***1. SOIC** = 50 mil pitch lead spacing* ***2. NL =** Lead-free*

IEEE 1394, Common Mode Choke

Part Number	No. of Lines	Inductance OCL (µH MIN)	Package L/W/H (in.) *	Data Sheet
				
A1801	2	3	.290/.240/.150	A104

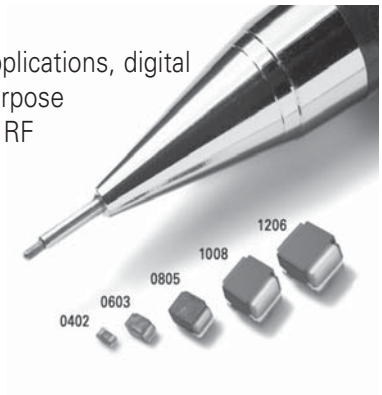
SMT - Surface Mount Package **THT** - Through Hole Package

RF Chip Inductors

Miniature, Wirewound Components

Pulse RF chip inductors provide high-quality filtering in mobile phones, wireless applications, digital cameras, disk drives and audio equipment. The inductors are also used in multi-purpose RF modules for telecom, automotive and consumer electronic applications. These RF chip inductors use wirewound technology with ceramic or ferrite cores in industry standard sizes and footprints.

From the ultra-small, low-profile 0402 series, which helps high-density layouts, to the 1206 series with up to 68 µH inductance, Pulse is able to meet all your needs in a wide range of applications. These series are matched in performance to the industry competition with full compatibility and operating frequency ranges.



COMPETITIVE CROSS REFERENCE

		Pulse Wirewound Inductors						
Type	Competition	0409CD	0603CD	0805CD	0805FT	1008CQ	1008CD	1206CD
Wirewound	Coilcraft	0402CS	0603CS	0805CS/HS/HT	–	1008HQ	1008CS/HT/CT	1206CS
	Murata	–	–	LOW1608A	–	–	LQN21A	–
	Taiyo Yuden	–	–	LB2012T	–	–	LEM_2520T	–
	TDK	–	–	–	NL2016	–	NLH2520	–

PART NUMBER ORDERING GUIDE

PE – 0805 CD 121 K T T*

PACKAGE STYLE
(0402, 0603, 0805,1008, 1210 or 1206)

CORE MATERIAL
C = Ceramic (Alumina)
CD = Standard Range
CM = High Side Metallization
CQ = High Q
F = Ferrite

INDUCTANCE (nH)
Representative of the inductance value

TOLERANCE
G = ±2%
J = ±5%
K = ±10%
M = ±20%

PACKAGING
T = Tape & Reel (7" or 13" reel)

Size	0402	0603	0805	1008	1206
PCs/Reel	3000	2000	2000	1600	3000

***TERMINATION**
T = Tin or Gold plating
G = Gold plating only
S = Tin plating only

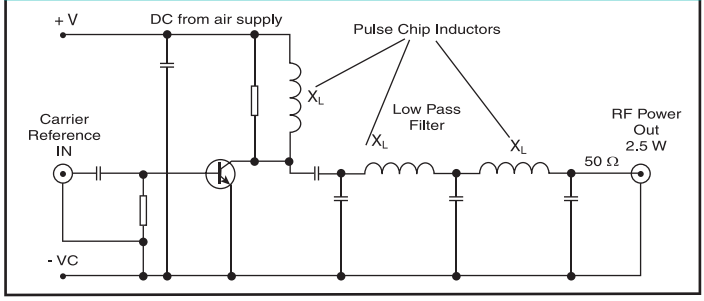
1. ***To*** *order directly from Pulse, there are local Pulse addresses and telephone numbers listed on the back cover of this catalog.*
2. ***Find*** *a Pulse authorized distributor or representative in your area on the Pulse website at:* ***http://www.pulseeng.com/index.php?415****.*
3. ***Part*** *numbers shown in this section are RoHS compliant. No additional suffix or identifier is required.*

GENERAL INFORMATION & SAMPLE KITS [1]

Inductor Series	Standard Size Format	Sold as Parts/Reel	Sample Kit Number	Data Sheet
0402CD	0402 (1005)	3000	PE-0402CDKIT-T	WC701
0603CD	0603 (1608)	2000	PE-0603CDKIT-T	WC701
0805CD	0805 (2012)	2000	PE-0805CDKIT-T	WC701
1008CD	1008 (2520)	1600	PE-1008CDKIT-T	WC701

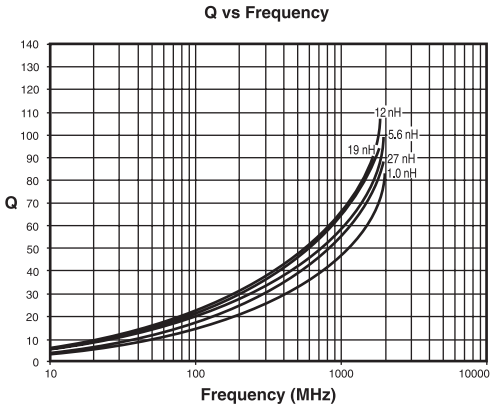
1. When *ordering, specify the adjacent sample kit number.*

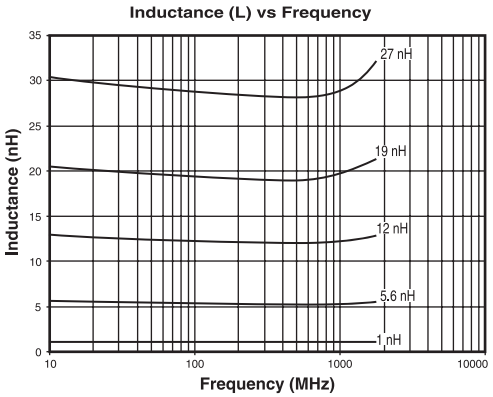
RF Amplifier



RF Chip Inductors

Pulse A TECHNITROL COMPANY





ULTRA SMALL, ULTRA LOW PROFILE

Part Number	Inductance (nH)	Optional Tolerance	Q (MIN)	SRF (MHz MIN)	RDC (Ω MAX)	IDC (mA MAX)
0402CD Series						
PE-0402CD1N0KTG [1]	1.0 @ 250 MHz	*See footnote 1*	13 @ 250 MHz	6000	0.045	1360
PE-0402CD1N2KTG [1]	1.2 @ 250 MHz	*See footnote 1*	13 @ 250 MHz	6000	0.060	1300
PE-0402CD1N8KTG [1]	1.8 @ 250 MHz	*See footnote 1*	16 @ 250 MHz	6000	0.070	1040
PE-0402CD1N9KTG	1.9 @ 250 MHz	±5% (J)	16 @ 250 MHz	6000	0.070	1040
PE-0402CD2N0KTG	2.0 @ 250 MHz	±5% (J)	16 @ 250 MHz	6000	0.070	1040
PE-0402CD2N2KTG	2.2 @ 250 MHz	±5% (J)	18 @ 250 MHz	6000	0.070	960
PE-0402CD2N4KTG	2.4 @ 250 MHz	±5% (J)	18 @ 250 MHz	6000	0.068	900
PE-0402CD2N7KTG	2.7 @ 250 MHz	±5% (J)	18 @ 250 MHz	6000	0.120	860
PE-0402CD3N3KTG	3.3 @ 250 MHz	±5% (J)	20 @ 250 MHz	6000	0.066	840
PE-0402CD3N6KTG	3.6 @ 250 MHz	±5% (J), ±2% (G)	20 @ 250 MHz	6000	0.066	840
PE-0402CD3N9KTG	3.9 @ 250 MHz	±5% (J), ±2% (G)	20 @ 250 MHz	5800	0.066	840
PE-0402CD4N3KTG	4.3 @ 250 MHz	±5% (J), ±2% (G)	20 @ 250 MHz	5800	0.091	640
PE-0402CD4N7KTG	4.7 @ 250 MHz	±5% (J), ±2% (G)	20 @ 250 MHz	4775	0.130	640
PE-0402CD5N1KTG	5.1 @ 250 MHz	±5% (J), ±2% (G)	23 @ 250 MHz	5800	0.083	800
PE-0402CD5N6KTG	5.6 @ 250 MHz	±5% (J), ±2% (G)	23 @ 250 MHz	5800	0.083	760
PE-0402CD6N2KTG	6.2 @ 250 MHz	±5% (J), ±2% (G)	23 @ 250 MHz	5800	0.083	760
PE-0402CD6N8KTG	6.8 @ 250 MHz	±5% (J), ±2% (G)	20 @ 250 MHz	5800	0.083	680
PE-0402CD7N5KTG	7.5 @ 250 MHz	±5% (J), ±2% (G)	25 @ 250 MHz	5800	0.104	680
PE-0402CD8N2KTG	8.2 @ 250 MHz	±5% (J), ±2% (G)	25 @ 250 MHz	4400	0.104	680
PE-0402CD8N7KTG	8.7 @ 250 MHz	±5% (J), ±2% (G)	21 @ 250 MHz	4100	0.200	680
PE-0402CD9N0KTG	9.0 @ 250 MHz	±5% (J), ±2% (G)	25 @ 250 MHz	4160	0.104	680
PE-0402CD9N5KTG	9.5 @ 250 MHz	±5% (J), ±2% (G)	21 @ 250 MHz	4000	0.200	600
PE-0402CD100KTG	10 @ 250 MHz	±5% (J), ±2% (G)	21 @ 250 MHz	3900	0.195	480
PE-0402CD110KTG	11 @ 250 MHz	±5% (J), ±2% (G)	26 @ 250 MHz	3680	0.120	640
PE-0402CD120KTG	12 @ 250 MHz	±5% (J), ±2% (G)	26 @ 250 MHz	3600	0.120	640
PE-0402CD130KTG	13 @ 250 MHz	±5% (J), ±2% (G)	26 @ 250 MHz	3450	0.210	600
PE-0402CD150KTG	15 @ 250 MHz	±5% (J), ±2% (G)	26 @ 250 MHz	3280	0.172	560
PE-0402CD160KTG	16 @ 250 MHz	±5% (J), ±2% (G)	26 @ 250 MHz	3100	0.220	560
PE-0402CD180KTG	18 @ 250 MHz	±5% (J), ±2% (G)	26 @ 250 MHz	3100	0.230	520
PE-0402CD190KTG	19 @ 250 MHz	±5% (J), ±2% (G)	26 @ 250 MHz	3040	0.202	480
PE-0402CD200KTG	20 @ 250 MHz	±5% (J), ±2% (G)	26 @ 250 MHz	3000	0.250	480
PE-0402CD220KTG	22 @ 250 MHz	±5% (J), ±2% (G)	26 @ 250 MHz	2800	0.300	400
PE-0402CD230KTG	23 @ 250 MHz	±5% (J), ±2% (G)	26 @ 250 MHz	2720	0.214	400
PE-0402CD240KTG	24 @ 250 MHz	±5% (J), ±2% (G)	26 @ 250 MHz	2700	0.300	400
PE-0402CD270KTG	27 @ 250 MHz	±5% (J), ±2% (G)	26 @ 250 MHz	2480	0.298	400
PE-0402CD300KTG	30 @ 250 MHz	±5% (J), ±2% (G)	25 @ 250 MHz	2350	0.300	350
PE-0402CD330KTG	33 @ 250 MHz	±5% (J), ±2% (G)	24 @ 250 MHz	2350	0.350	350
PE-0402CD360KTG	36 @ 250 MHz	±5% (J), ±2% (G)	26 @ 250 MHz	2320	0.403	320
PE-0402CD390KTG	39 @ 250 MHz	±5% (J), ±2% (G)	25 @ 250 MHz	2100	0.550	320
PE-0402CD400KTG	40 @ 250 MHz	±5% (J), ±2% (G)	26 @ 250 MHz	2240	0.438	320
PE-0402CD430KTG	43 @ 250 MHz	±5% (J), ±2% (G)	25 @ 250 MHz	2030	0.810	240
PE-0402CD470KTG	47 @ 250 MHz	±5% (J), ±2% (G)	20 @ 250 MHz	2100	0.830	100
PE-0402CD510KTG	51 @ 250 MHz	±5% (J), ±2% (G)	25 @ 250 MHz	1750	0.820	100
PE-0402CD560KTG	56 @ 250 MHz	±5% (J), ±2% (G)	22 @ 250 MHz	1750	0.970	100
PE-0402CD680KTG	68 @ 250 MHz	±5% (J), ±2% (G)	18 @ 250 MHz	1840	0.970	100
PE-0402CD820KTG	82 @ 250 MHz	±5% (J), ±2% (G)	16 @ 250 MHz	1680	1.250	100
PE-0402CD101KTG	100 @ 250 MHz	±5% (J), ±2% (G)	16 @ 250 MHz	1620	2.600	100
PE-0402CD121KTG	120 @ 250 MHz	±5% (J), ±2% (G)	14 @ 250 MHz	1520	2.700	90

1. ±0.3 nH *(S), ±0.2 nH (B)*

Surface Mount

***NOTE:** Referenced part is Standard Tolerance, 10% (K). To order parts with optional tolerances, see the Part Number Ordering Guide on the first page of this section.

RF Chip Inductors

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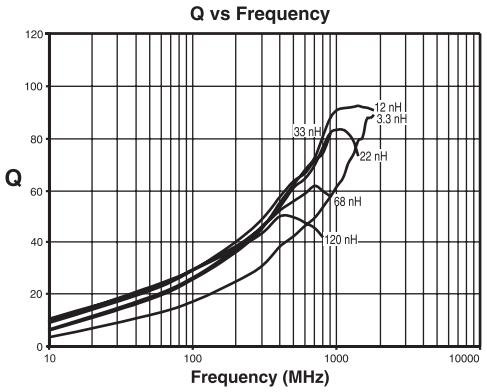
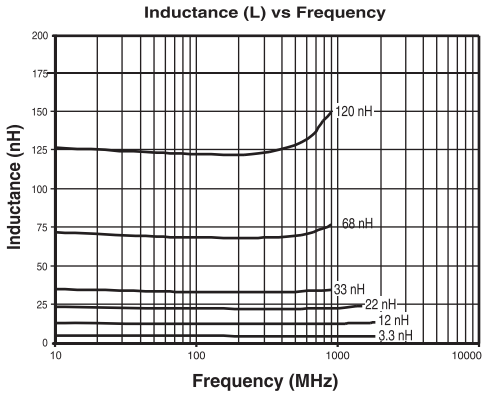




INDUSTRY STANDARD PERFORMANCE

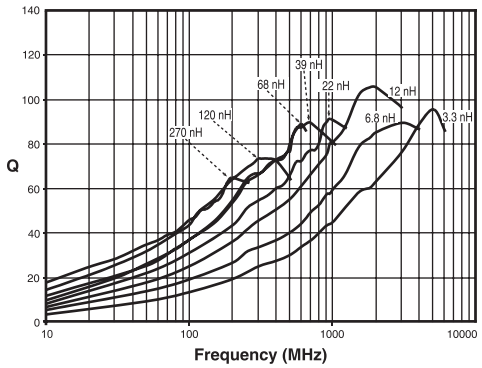
Part Number	Inductance (nH)	Optional Tolerance	Q (MIN)	SRF (MHz MIN)	RDC (Ω MAX)	IDC (mA MAX)
0603CD Series						
PE-0603CD1N6KTT	1.6 @ 250 MHz	±5% (J)	24 @ 250 MHz	>6000	0.030	700
PE-0603CD010KTT	1.7 @ 250 MHz	±5% (J), ±2% (G)	16 @ 250 MHz	>6000	0.050	700
PE-0603CD1N8KTT	1.8 @ 250 MHz	±5% (J), ±2% (G)	16 @ 250 MHz	>6000	0.045	700
PE-0603CD2N2KTT	2.2 @ 250 MHz	±5% (J), ±2% (G)	18 @ 250 MHz	>6000	0.110	700
PE-0603CD3N3KTT	3.3 @ 250 MHz	±5% (J), ±2% (G)	35 @ 250 MHz	>6000	0.045	700
PE-0603CD3N6KTT	3.6 @ 250 MHz	±5% (J), ±2% (G)	20 @ 250 MHz	>6000	0.070	700
PE-0603CD030KTT	3.9 @ 250 MHz	±5% (J), ±2% (G)	20 @ 250 MHz	>6000	0.080	700
PE-0603CD4N3KTT	4.3 @ 250 MHz	±5% (J), ±2% (G)	20 @ 250 MHz	>6000	0.102	700
PE-0603CD040KTT	4.55 @ 250 MHz	±5% (J), ±2% (G)	20 @ 250 MHz	5800	0.106	700
PE-0603CD4N7KTT	4.7 @ 250 MHz	±5% (J), ±2% (G)	20 @ 250 MHz	5800	0.116	700
PE-0603CD5N1KTT	5.1 @ 250 MHz	±5% (J), ±2% (G)	20 @ 250 MHz	5700	0.108	700
PE-0603CD5N6KTT	5.6 @ 250 MHz	±5% (J), ±2% (G)	25 @ 250 MHz	5600	0.108	700
PE-0603CD6N2KTT	6.2 @ 250 MHz	±5% (J), ±2% (G)	25 @ 250 MHz	5800	0.110	700
PE-0603CD060KTT	6.68 @ 250 MHz	±5% (J), ±2% (G)	25 @ 250 MHz	5800	0.110	700
PE-0603CD6N8KTT	6.8 @ 250 MHz	±5% (J), ±2% (G)	27 @ 250 MHz	5800	0.110	700
PE-0603CD7N5KTT	7.5 @ 250 MHz	±5% (J), ±2% (G)	28 @ 250 MHz	4800	0.115	700
PE-0603CD080KTT	8.2 @ 250 MHz	±5% (J), ±2% (G)	30 @ 250 MHz	4600	0.120	700
PE-0603CD8N7KTT	8.7 @ 250 MHz	±5% (J), ±2% (G)	28 @ 250 MHz	4600	0.109	700
PE-0603CD9N5KTT	9.5 @ 250 MHz	±5% (J), ±2% (G)	28 @ 250 MHz	5400	0.135	700
PE-0603CD100KTT	10 @ 250 MHz	±5% (J), ±2% (G)	30 @ 250 MHz	4800	0.130	700
PE-0603CD110KTT	11 @ 250 MHz	±5% (J), ±2% (G)	30 @ 250 MHz	4000	0.086	700
PE-0603CD120KTT	12 @ 250 MHz	±5% (J), ±2% (G)	30 @ 250 MHz	4000	0.130	700
PE-0603CD130KTT	13 @ 250 MHz	±5% (J), ±2% (G)	38 @ 250 MHz	3600	0.106	700
PE-0603CD150KTT	15 @ 250 MHz	±5% (J), ±2% (G)	30 @ 250 MHz	4000	0.170	700
PE-0603CD160KTT	16 @ 250 MHz	±5% (J), ±2% (G)	35 @ 250 MHz	3300	0.170	700
PE-0603CD180KTT	18 @ 250 MHz	±5% (J), ±2% (G)	35 @ 250 MHz	3100	0.170	700
PE-0603CD220KTT	22 @ 250 MHz	±5% (J), ±2% (G)	35 @ 250 MHz	3000	0.190	700
PE-0603CD230KTT	23 @ 250 MHz	±5% (J), ±2% (G)	38 @ 250 MHz	2850	0.190	700
PE-0603CD240KTT	24 @ 250 MHz	±5% (J), ±2% (G)	35 @ 250 MHz	2650	0.200	600
PE-0603CD270KTT	27 @ 250 MHz	±5% (J), ±2% (G)	35 @ 250 MHz	2800	0.220	600
PE-0603CD300KTT	30 @ 250 MHz	±5% (J), ±2% (G)	37 @ 250 MHz	2250	0.144	600
PE-0603CD330KTT	33 @ 250 MHz	±5% (J), ±2% (G)	35 @ 250 MHz	2300	0.220	600
PE-0603CD360KTT	36 @ 250 MHz	±5% (J), ±2% (G)	37 @ 250 MHz	2080	0.250	600
PE-0603CD390KTT	39 @ 250 MHz	±5% (J), ±2% (G)	35 @ 250 MHz	2200	0.250	600
PE-0603CD430KTT	43 @ 250 MHz	±5% (J), ±2% (G)	35 @ 250 MHz	2000	0.280	600
PE-0603CD470KTT	47 @ 200 MHz	±5% (J), ±2% (G)	35 @ 200 MHz	2000	0.280	600
PE-0603CD510KTT	51 @ 200 MHz	±5% (J), ±2% (G)	35 @ 200 MHz	1900	0.270	600
PE-0603CD560KTT	56 @ 200 MHz	±5% (J), ±2% (G)	35 @ 200 MHz	1900	0.310	600
PE-0603CD680KTT	68 @ 200 MHz	±5% (J), ±2% (G)	35 @ 200 MHz	1700	0.340	600
PE-0603CD720KTT	72 @ 150 MHz	±5% (J), ±2% (G)	34 @ 150 MHz	1700	0.490	400
PE-0603CD820KTT	82 @ 150 MHz	±5% (J), ±2% (G)	34 @ 150 MHz	1700	0.540	400
PE-0603CD101KTT	98.5 @ 150 MHz	±5% (J), ±2% (G)	35 @ 150 MHz	1400	0.580	400
PE-0603CDR10KTT	100 @ 150 MHz	±5% (J), ±2% (G)	34 @ 150 MHz	1400	0.580	400
PE-0603CD111KTT	110 @ 150 MHz	±5% (J), ±2% (G)	33 @ 150 MHz	1300	0.610	300
PE-0603CDR12KTT	120 @ 150 MHz	±5% (J), ±2% (G)	32 @ 150 MHz	1300	0.650	300
PE-0603CD121KTT	122 @ 150 MHz	±5% (J), ±2% (G)	33 @ 150 MHz	1300	0.650	300
PE-0603CD151KTT	150 @ 150 MHz	±5% (J), ±2% (G)	28 @ 150 MHz	990	0.920	280
PE-0603CD181KTT	180 @ 100 MHz	±5% (J), ±2% (G)	25 @ 100 MHz	990	1.250	240
PE-0603CD201KTT	200 @ 100 MHz	±5% (J), ±2% (G)	25 @ 100 MHz	900	1.980	240
PE-0603CD211KTT	210 @ 100 MHz	±5% (J), ±2% (G)	27 @ 100 MHz	895	2.060	200
PE-0603CD221KTT	220 @ 100 MHz	±5% (J), ±2% (G)	25 @ 100 MHz	900	1.900	200
PE-0603CD251KTT	250 @ 100 MHz	±5% (J), ±2% (G)	25 @ 100 MHz	822	3.550	180
PE-0603CD271KTT	270 @ 100 MHz	±5% (J), ±2% (G)	24 @ 100 MHz	860	2.300	170
PE-0603CD331KTT	330 @ 100 MHz	±5% (J), ±2% (G)	22 @ 100 MHz	500	2.300	150
PE-0603CD391KTT	390 @ 100 MHz	±5% (J), ±2% (G)	20 @ 100 MHz	350	2.900	130

Surface Mount

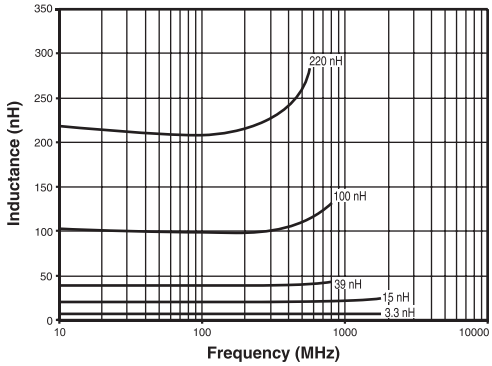
***NOTE:** Referenced part is Standard Tolerance, 10% (K). To order parts with optional tolerances, see the Part Number Ordering Guide on the first page of this section.

RF Chip Inductors

Q vs Frequency



Inductance (L) vs Frequency



INDUSTRY STANDARD PERFORMANCE

Part Number	Inductance (nH)	Optional Tolerance	Q (MIN)	SRF (MHz MIN)	RDC (Ω MAX)	IDC (mA MAX)
0805CD Series						
PE-0805CD2N8KTT	2.8 @ 250 MHz	±5% (J)	80 @ 1500 MHz	>6000	0.06	600
PE-0805CD3N0KTT	3.0 @ 250 MHz	±5% (J)	65 @ 1500 MHz	>6000	0.06	600
PE-0805CD030KTT	3.32 @ 250 MHz	±5% (J), ±2% (G)	40 @ 1500 MHz	6000	0.08	600
PE-0805CD050KTT	5.6 @ 250 MHz	±5% (J), ±2% (G)	50 @ 1500 MHz	5500	0.10	600
PE-0805CD060KTT	6.5 @ 250 MHz	±5% (J), ±2% (G)	50 @ 1000 MHz	5000	0.11	600
PE-0805CD7N5KTT	7.5 @ 250 MHz	±5% (J), ±2% (G)	50 @ 1000 MHz	4500	0.14	600
PE-0805CD080KTT	7.9 @ 250 MHz	±5% (J), ±2% (G)	50 @ 1000 MHz	4700	0.12	600
PE-0805CD100KTT	10.2 @ 250 MHz	±5% (J), ±2% (G)	50 @ 500 MHz	4100	0.14	600
PE-0805CD120KTT	11.9 @ 250 MHz	±5% (J), ±2% (G)	50 @ 500 MHz	4000	0.15	600
PE-0805CD150KTT	14.9 @ 250 MHz	±5% (J), ±2% (G)	50 @ 500 MHz	3400	0.17	600
PE-0805CD180KTT	17.95 @ 250 MHz	±5% (J), ±2% (G)	50 @ 500 MHz	3300	0.20	600
PE-0805CD220KTT	21.7 @ 250 MHz	±5% (J), ±2% (G)	55 @ 500 MHz	2600	0.22	500
PE-0805CD240KTT	24 @ 250 MHz	±5% (J), ±2% (G)	50 @ 500 MHz	2000	0.22	500
PE-0805CD270KTT	26.5 @ 250 MHz	±5% (J), ±2% (G)	55 @ 500 MHz	2500	0.25	500
PE-0805CD330KTT	32.75 @ 250 MHz	±5% (J), ±2% (G)	60 @ 500 MHz	2050	0.27	500
PE-0805CD360KTT	36 @ 250 MHz	±5% (J), ±2% (G)	55 @ 500 MHz	1700	0.27	500
PE-0805CD390KTT	38.5 @ 250 MHz	±5% (J), ±2% (G)	60 @ 500 MHz	2000	0.29	500
PE-0805CD430KTT	43 @ 200 MHz	±5% (J), ±2% (G)	60 @ 500 MHz	1650	0.34	500
PE-0805CD470KTT	46.6 @ 200 MHz	±5% (J), ±2% (G)	60 @ 500 MHz	1650	0.31	500
PE-0805CD560KTT	55.5 @ 200 MHz	±5% (J), ±2% (G)	60 @ 500 MHz	1550	0.34	500
PE-0805CD680KTT	67.8 @ 200 MHz	±5% (J), ±2% (G)	60 @ 500 MHz	1450	0.38	500
PE-0805CD820KTT	82.7 @ 150 MHz	±5% (J), ±2% (G)	60 @ 500 MHz	1300	0.42	400
PE-0805CD910KTT	91 @ 150 MHz	±5% (J), ±2% (G)	65 @ 500 MHz	1200	0.44	400
PE-0805CD101KTT	98.7 @ 150 MHz	±5% (J), ±2% (G)	65 @ 500 MHz	1200	0.46	400
PE-0805CD111KTT	110 @ 150 MHz	±5% (J), ±2% (G)	50 @ 250 MHz	1000	0.48	400
PE-0805CD121KTT	119.7 @ 150 MHz	±5% (J), ±2% (G)	50 @ 250 MHz	1100	0.51	400
PE-0805CD151KTT	149.4 @ 100 MHz	±5% (J), ±2% (G)	50 @ 250 MHz	920	0.56	400
PE-0805CD181KTT	179.6 @ 100 MHz	±5% (J), ±2% (G)	50 @ 250 MHz	870	0.64	400
PE-0805CD221KTT	217 @ 100 MHz	±5% (J), ±2% (G)	45 @ 250 MHz	850	0.70	400
PE-0805CD241KTT	240 @ 100 MHz	±5% (J), ±2% (G)	44 @ 250 MHz	690	1.00	350
PE-0805CD271KTT	269 @ 100 MHz	±5% (J), ±2% (G)	45 @ 250 MHz	650	1.00	350
PE-0805CD331KTT	331 @ 100 MHz	±5% (J), ±2% (G)	45 @ 250 MHz	600	1.40	310
PE-0805CD391KTT	386 @ 100 MHz	±5% (J), ±2% (G)	35 @ 250 MHz	560	1.50	290
PE-0805CD471KTT	477 @ 50 MHz	±5% (J), ±2% (G)	33 @ 100 MHz	375	1.76	250
PE-0805CD561KTT	545 @ 25 MHz	±5% (J), ±2% (G)	23 @ 50 MHz	340	1.90	230
PE-0805CD681KTT	674 @ 25 MHz	±5% (J), ±2% (G)	23 @ 50 MHz	188	2.20	190
PE-0805CD821KTT	783 @ 25 MHz	±5% (J), ±2% (G)	23 @ 50 MHz	215	2.35	180
PE-0805CD102KTT	1000 @ 25 MHz	±5% (J), ±2% (G)	20 @ 50 MHz	200	3.60	150
PE-0805CD122KTT	1200 @ 25 MHz	±5% (J), ±2% (G)	20 @ 50 MHz	200	4.10	120
PE-0805CD152KTT	1500 @ 25 MHz	±5% (J), ±2% (G)	20 @ 50 MHz	200	5.00	100

1. For other inductance values, in the 0805 size, see the 0805CM and the 0805 FT series.

Surface Mount

***NOTE:** Referenced part is Standard Tolerance, 10% (K). To order parts with optional tolerances, see the Part Number Ordering Guide on the first page of this section.

RF Chip Inductors

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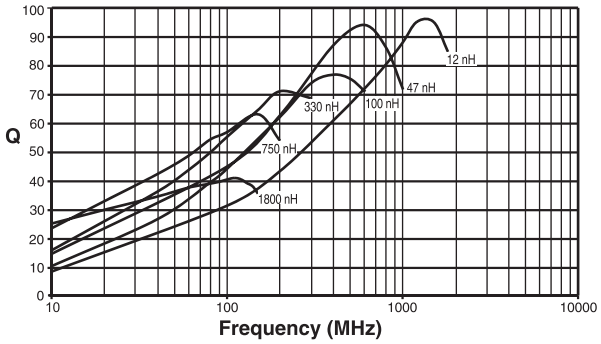
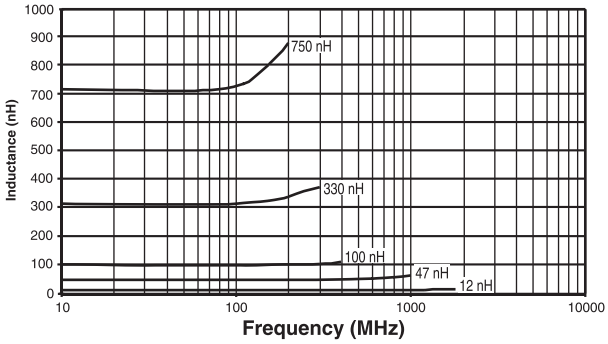
Q vs Frequency



Inductance (L) vs Frequency



INDUSTRY STANDARD PERFORMANCE *(continued)*

Part Number	Inductance (nH)	Optional Tolerance	Q (MIN)	SRF (MHz MIN)	RDC (Ω MAX)	IDC (mA MAX)
1008CD Series						
PE-1008CD090KTT	9.7 @ 50 MHz	±5% (J), ±2% (G)	50 @ 500 MHz	4100	0.09	1000
PE-1008CD100KTT	10 @ 50 MHz	±5% (J), ±2% (G)	50 @ 500 MHz	4100	0.09	1000
PE-1008CD120KTT	12 @ 50 MHz	±5% (J), ±2% (G))	50 @ 500 MHz	3300	0.09	1000
PE-1008CD140KTT	14.3 @ 50 MHz	±5% (J), ±2% (G)	50 @ 500 MHz	1850	0.10	1000
PE-1008CD150KTT	15 @ 50 MHz	±5% (J), ±2% (G)	50 @ 500 MHz	1850	0.10	1000
PE-1008CD180KTT	17.8 @ 50 MHz	±5% (J), ±2% (G)	50 @ 350 MHz	2500	0.11	1000
PE-1008CD210KTT	20.9 @ 50 MHz	±5% (J), ±2% (G)	55 @ 350 MHz	1800	0.12	1000
PE-1008CD220KTT	22 @ 50 MHz	±5% (J), ±2% (G)	55 @ 350 MHz	1800	0.12	1000
PE-1008CD260KTT	26.2 @ 50 MHz	±5% (J), ±2% (G)	55 @ 350 MHz	1500	0.13	1000
PE-1008CD270KTT	27 @ 50 MHz	±5% (J), ±2% (G)	55 @ 350 MHz	1500	0.11	1000
PE-1008CD320KTT	31.8 @ 50 MHz	±5% (J), ±2% (G)	60 @ 350 MHz	1600	0.16	1000
PE-1008CD330KTT	33 @ 50 MHz	±5% (J), ±2% (G)	60 @ 350 MHz	1600	0.14	1000
PE-1008CD380KTT	38.2 @ 50 MHz	±5% (J), ±2% (G)	60 @ 350 MHz	1400	0.15	1000
PE-1008CD390KTT	39 @ 50 MHz	±5% (J), ±2% (G)	60 @ 350 MHz	1400	0.12	1000
PE-1008CD450KTT	44.9 @ 50 MHz	±5% (J), ±2% (G)	65 @ 350 MHz	1200	0.16	1000
PE-1008CD470KTT	47 @ 50 MHz	±5% (J), ±2% (G)	65 @ 350 MHz	1200	0.08	1000
PE-1008CD540KTT	54 @ 50 MHz	±5% (J), ±2% (G)	65 @ 350 MHz	1150	0.18	1000
PE-1008CD560KTT	56 @ 50 MHz	±5% (J), ±2% (G)	65 @ 350 MHz	1150	0.12	1000
PE-1008CD650KTT	65 @ 50 MHz	±5% (J), ±2% (G)	65 @ 350 MHz	1100	0.20	1000
PE-1008CD680KTT	68 @ 50 MHz	±5% (J), ±2% (G)	65 @ 350 MHz	1100	0.07	1000
PE-1008CD790KTT	79 @ 50 MHz	±5% (J), ±2% (G)	65 @ 350 MHz	950	0.22	1000
PE-1008CD820KTT	82 @ 50 MHz	±5% (J), ±2% (G)	60 @ 350 MHz	950	0.14	1000
PE-1008CD960KTT	96.1 @ 25 MHz	±5% (J), ±2% (G)	60 @ 350 MHz	900	0.56	650
PE-1008CD101KTT	100 @ 25 MHz	±5% (J), ±2% (G)	60 @ 350 MHz	900	0.15	650
PE-1008CD121KTT	120 @ 25 MHz	±5% (J), ±2% (G)	60 @ 350 MHz	950	0.63	650
PE-1008CD141KTT	145.7 @ 25 MHz	±5% (J), ±2% (G)	45 @ 100 MHz	625	0.70	580
PE-1008CD151KTT	150 @ 25 MHz	±5% (J), ±2% (G)	45 @ 100 MHz	625	0.16	580
PE-1008CD161KTT	160 @ 25 MHz	±5% (J), ±2% (G)	45 @ 100 MHz	625	0.77	600
PE-1008CD171KTT	170.2 @ 25 MHz	±5% (J), ±2% (G)	45 @ 100 MHz	650	0.77	620
PE-1008CD181KTT	180 @ 25 MHz	±5% (J), ±2% (G)	45 @ 100 MHz	650	0.77	620
PE-1008CD211KTT	216 @ 25 MHz	±5% (J), ±2% (G))	45 @ 100 MHz	625	0.84	500
PE-1008CD221KTT	220 @ 25 MHz	±5% (J), ±2% (G)	45 @ 100 MHz	625	0.84	500
PE-1008CD261KTT	260.5 @ 25 MHz	±5% (J), ±2% (G)	45 @ 100 MHz	525	0.91	500
PE-1008CD271KTT	270 @ 25 MHz	±5% (J), ±2% (G))	45 @ 100 MHz	525	0.91	500
PE-1008CD311KTT	313.6 @ 25 MHz	±5% (J), ±2% (G)	45 @ 100 MHz	500	1.05	450
PE-1008CD331KTT	330 @ 25 MHz	±5% (J), ±2% (G)	45 @ 100 MHz	500	1.05	450

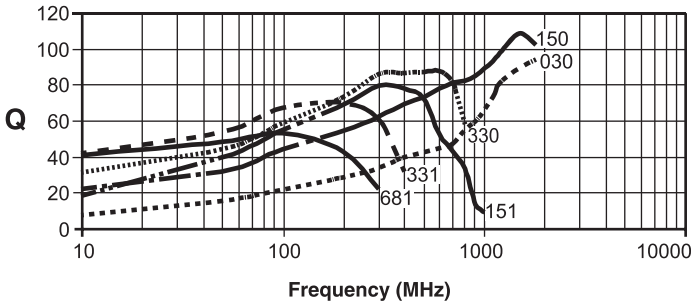
Part Number	Inductance (nH)	Optional Tolerance	Q (MIN)	SRF (MHz MIN)	RDC (Ω MAX)	IDC (mA MAX)
1008CD Series (continued)						
PE-1008CD361KTT	365 @ 25 MHz	±5% (J), ±2% (G)	45 @ 100 MHz	500	1.12	470
PE-1008CD391KTT	390 @ 25 MHz	±5% (J), ±2% (G)	45 @ 100 MHz	475	1.12	470
PE-1008CD451KTT	447 @ 25 MHz	±5% (J), ±2% (G)	45 @ 100 MHz	450	1.19	420
PE-1008CD471KTT	470 @ 25 MHz	±5% (J), ±2% (G)	45 @ 100 MHz	450	1.19	420
PE-1008CD541KTT	535 @ 25 MHz	±5% (J), ±2% (G)	45 @ 100 MHz	415	1.33	310
PE-1008CD561KTT	560 @ 25 MHz	±5% (J), ±2% (G)	45 @ 100 MHz	415	1.33	310
PE-1008CD591KTT	586 @ 25 MHz	±5% (J), ±2% (G)	45 @ 100 MHz	375	1.40	300
PE-1008CD621KTT	620 @ 25 MHz	±5% (J), ±2% (G)	45 @ 100 MHz	375	1.40	300
PE-1008CD641KTT	636 @ 25 MHz	±5% (J), ±2% (G)	45 @ 100 MHz	375	1.47	230
PE-1008CD681KTT	680 @ 25 MHz	±5% (J), ±2% (G)	45 @ 100 MHz	375	1.47	230
PE-1008CD711KTT	708.8 @ 25 MHz	±5% (J), ±2% (G)	45 @ 100 MHz	360	1.54	200
PE-1008CD751KTT	750 @ 25 MHz	±5% (J), ±2% (G)	45 @ 100 MHz	350	1.61	200
PE-1008CD771KTT	768 @ 25 MHz	±5% (J), ±2% (G)	45 @ 100 MHz	325	1.61	180
PE-1008CD821KTT	820 @ 25 MHz	±5% (J), ±2% (G)	45 @ 100 MHz	325	1.61	180
PE-1008CD851KTT	849.8 @ 25 MHz	±5% (J), ±2% (G)	35 @ 50 MHz	320	1.68	150
PE-1008CD911KTT	909.5 @ 25 MHz	±5% (J), ±2% (G)	35 @ 50 MHz	290	1.75	150
PE-1008CD102KTT	1000 @ 25 MHz	±5% (J), ±2% (G)	35 @ 50 MHz	260	1.90	120
PE-1008CD112KTT	1184 @ 25 MHz	±5% (J), ±2% (G)	35 @ 50 MHz	250	2.00	310
PE-1008CD122KTT	1200 @ 7.9 MHz	±5% (J), ±2% (G)	35 @ 50 MHz	250	2.00	310
PE-1008CD142KTT	1470 @ 7.9 MHz	±5% (J), ±2% (G)	28 @ 50 MHz	200	2.30	330
PE-1008CD152KTT	1500 @ 7.9 MHz	±5% (J), ±2% (G)	28 @ 50 MHz	200	2.30	330
PE-1008CD182KTT	1792.9 @ 7.9 MHz	±5% (J), ±2% (G)	28 @ 50 MHz	160	2.60	300
PE-1008CD212KTT	2154.5 @ 7.9 MHz	±5% (J), ±2% (G)	28 @ 50 MHz	80	2.80	280
PE-1008CD222KTT	2200 @ 7.9 MHz	±5% (J), ±2% (G)	28 @ 50 MHz	80	2.80	280
PE-1008CD262KTT	2646.8 @ 7.9 MHz	±5% (J), ±2% (G)	22 @ 25 MHz	90	3.20	290
PE-1008CD272KTT	2700 @ 7.9 MHz	±5% (J), ±2% (G)	22 @ 25 MHz	90	3.20	290
PE-1008CD322KTT	3207.6 @ 7.9 MHz	±5% (J), ±2% (G)	22 @ 25 MHz	40	3.40	290
PE-1008CD332KTT	3300 @ 7.9 MHz	±5% (J), ±2% (G)	22 @ 25 MHz	40	3.40	290
PE-1008CD372KTT	3758.2 @ 7.9 MHz	±5% (J), ±2% (G)	20 @ 25 MHz	35	3.60	260
PE-1008CD392KTT	3900 @ 7.9 MHz	±5% (J), ±2% (G)	20 @ 25 MHz	35	3.60	260
PE-1008CD452KTT	4526.2 @ 7.9 MHz	±5% (J), ±2% (G)	20 @ 25 MHz	25	4.00	260
PE-1008CD472KTT	4700 @ 7.9 MHz	±5% (J), ±2% (G)	20 @ 25 MHz	25	4.00	260
PE-1008CD562KTT	5600 @ 7.9 MHz	±5% (J), ±2% (G)	20 @ 25 MHz	60	5.40	240
PE-1008CD682KTT	6800 @ 7.9 MHz	±5% (J), ±2% (G)	18 @ 7.9 MHz	40	4.90	200
PE-1008CD822KTT	8200 @ 7.9 MHz	±5% (J), ±2% (G)	18 @ 7.9 MHz	25	6.00	160

Surface Mount

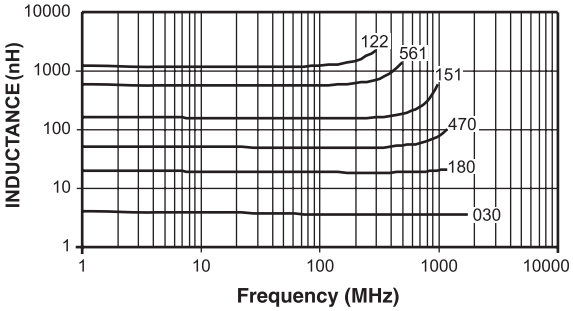
*__NOTE:__ Referenced part is Standard Tolerance, 10% (K). To order parts with optional tolerances, see the Part Number Ordering Guide on the first page of this section.

RF Chip Inductors

Q vs Frequency



Inductance (L) vs Frequency



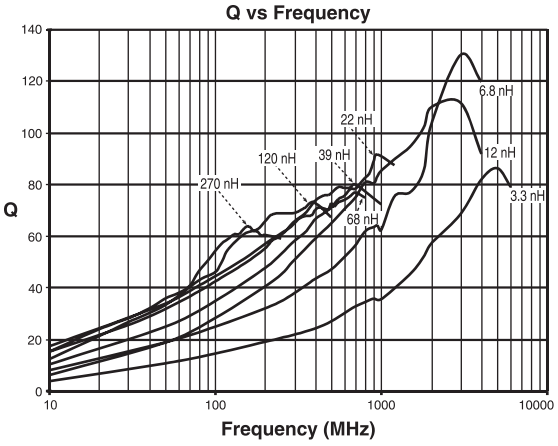
INDUSTRY STANDARD PERFORMANCE *(continued)*

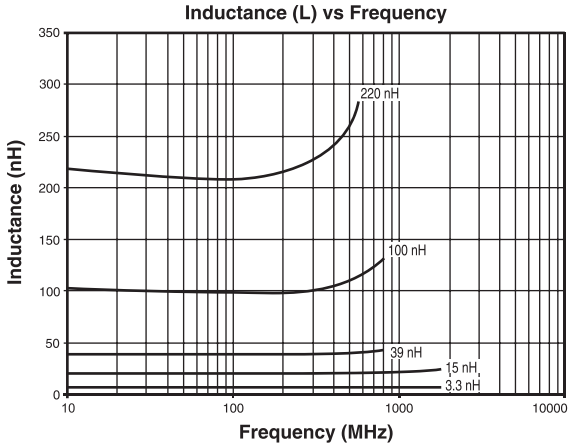
Part Number	Inductance (nH)	Optional Tolerance	Q (MIN)	SRF (MHz MIN)	R_{DC} (Ω MAX)	I_{DC} (mA MAX)
1206CD Series						
PE-1206CD030KTT	3.3 @ 100 MHz	±5% (J)	30 @ 300 MHz	6200	0.05	1000
PE-1206CD060KTT	6.8 @ 100 MHz	±5% (J)	30 @ 300 MHz	5500	0.07	1000
PE-1206CD100KTT	10 @ 100 MHz	±5% (J)	40 @ 300 MHz	4000	0.08	1000
PE-1206CD120KTT	12 @ 100 MHz	±5% (J)	40 @ 300 MHz	3200	0.08	1000
PE-1206CD150KTT	15 @ 100 MHz	±5% (J)	40 @ 300 MHz	3200	0.10	1000
PE-1206CD180KTT	18 @ 100 MHz	±5% (J)	50 @ 300 MHz	2800	0.10	1000
PE-1206CD220KTT	22 @ 100 MHz	±5% (J)	50 @ 300 MHz	2200	0.10	1000
PE-1206CD270KTT	27 @ 100 MHz	±5% (J)	50 @ 300 MHz	1800	0.11	1000
PE-1206CD330KTT	33 @ 100 MHz	±5% (J)	55 @ 300 MHz	1800	0.11	1000
PE-1206CD390KTT	39 @ 100 MHz	±5% (J)	55 @ 300 MHz	1800	0.12	1000
PE-1206CD470KTT	47 @ 100 MHz	±5% (J)	55 @ 300 MHz	1500	0.13	1000
PE-1206CD560KTT	56 @ 100 MHz	±5% (J)	55 @ 300 MHz	1450	0.14	1000
PE-1206CD680KTT	68 @ 100 MHz	±5% (J)	55 @ 300 MHz	1200	0.26	900
PE-1206CD820KTT	82 @ 100 MHz	±5% (J)	55 @ 300 MHz	1200	0.21	900
PE-1206CD101KTT	100 @ 100 MHz	±5% (J)	55 @ 300 MHz	1100	0.26	850
PE-1206CD121KTT	120 @ 100 MHz	±5% (J)	60 @ 300 MHz	1100	0.26	800
PE-1206CD151KTT	150 @ 100 MHz	±5% (J)	60 @ 300 MHz	950	0.31	750
PE-1206CD181KTT	180 @ 50 MHz	±5% (J)	60 @ 300 MHz	900	0.43	700
PE-1206CD221KTT	220 @ 50 MHz	±5% (J)	60 @ 300 MHz	760	0.50	670
PE-1206CD271KTT	270 @ 50 MHz	±5% (J)	55 @ 300 MHz	730	0.56	630
PE-1206CD331KTT	330 @ 50 MHz	±5% (J)	45 @ 150 MHz	650	0.62	590
PE-1206CD391KTT	390 @ 50 MHz	±5% (J)	45 @ 150 MHz	600	0.75	530
PE-1206CD471KTT	470 @ 50 MHz	±5% (J)	45 @ 150 MHz	550	1.30	490
PE-1206CD561KTT	560 @ 35 MHz	±5% (J)	45 @ 150 MHz	470	1.34	460
PE-1206CD621KTT	620 @ 35 MHz	±5% (J)	45 @ 150 MHz	470	1.58	430
PE-1206CD681KTT	680 @ 35 MHz	±5% (J)	45 @ 150 MHz	450	1.58	430
PE-1206CD751KTT	750 @ 35 MHz	±5% (J)	45 @ 150 MHz	440	2.25	400
PE-1206CD821KTT	820 @ 35 MHz	±5% (J)	45 @ 150 MHz	420	1.82	400
PE-1206CD911KTT	910 @ 35 MHz	±5% (J)	45 @ 150 MHz	410	2.95	400
PE-1206CD102KTT	1000 @ 35 MHz	±5% (J)	45 @ 150 MHz	400	2.80	320
PE-1206CD122KTT	1200 @ 35 MHz	±5% (J)	45 @ 150 MHz	380	3.20	300

Surface Mount

*__NOTE:__ Referenced part is Standard Tolerance, 10% (K). To order parts with optional tolerances, see the Part Number Ordering Guide on the first page of this section.

RF Chip Inductors





INDUSTRY STANDARD PERFORMANCE *(continued)*

Part Number	Inductance (nH)	Optional Tolerance	Q (MIN)	SRF (MHz MIN)	R_{DC} (Ω MAX)	I_{DC} (mA MAX)
0805CM Series						
PE-0805CM030KTT	3.3 @ 250 MHz	±5% (J), ±2% (G)	37 @ 1500 MHz	5000	0.08	600
PE-0805CM060KTT	6.8 @ 250 MHz	±5% (J), ±2% (G)	46 @ 1000 MHz	5000	0.15	600
PE-0805CM080KTT	8.2 @ 250 MHz	±5% (J), ±2% (G)	47 @ 1000 MHz	3900	0.13	600
PE-0805CM100KTT	10 @ 250 MHz	±5% (J), ±2% (G)	60 @ 500 MHz	3900	0.10	600
PE-0805CM120KTT	12 @ 250 MHz	±5% (J), ±2% (G)	50 @ 500 MHz	2900	0.13	600
PE-0805CM150KTT	15 @ 250 MHz	±5% (J), ±2% (G)	50 @ 500 MHz	2700	0.15	600
P E-0805CM180KTT	18 @ 250 MHz	±5% (J), ±2% (G)	50 @ 500 MHz	2600	0.13	600
PE-0805CM220KTT	22 @ 250 MHz	±5% (J), ±2% (G)	55 @ 500 MHz	2200	0.13	500
PE-0805CM270KTT	27 @ 250 MHz	±5% (J), ±2% (G)	55 @ 500 MHz	2000	0.23	500
PE-0805CM330KTT	33 @ 250 MHz	±5% (J), ±2% (G)	58 @ 500 MHz	1800	0.18	500
PE-0805CM390KTT	39 @ 250 MHz	±5% (J), ±2% (G)	60 @ 500 MHz	1600	0.23	500
PE-0805CM470KTT	47 @ 200 MHz	±5% (J), ±2% (G)	60 @ 500 MHz	1650	0.25	500
PE-0805CM560KTT	56 @ 200 MHz	±5% (J), ±2% (G)	60 @ 500 MHz	1300	0.16	500
PE-0805CM680KTT	68 @ 200 MHz	±5% (J), ±2% (G)	60 @ 500 MHz	1350	0.18	500
PE-0805CM820KTT	82 @ 150 MHz	±5% (J), ±2% (G)	60 @ 500 MHz	1300	0.36	400
PE-0805CM101KTT	100 @ 150 MHz	±5% (J), ±2% (G)	55 @ 500 MHz	1100	0.36	400
PE-0805CM121KTT	120 @ 150 MHz	±5% (J), ±2% (G)	45 @ 250 MHz	1100	0.56	350
PE-0805CM151KTT	150 @ 100 MHz	±5% (J), ±2% (G)	50 @ 250 MHz	900	0.56	350
PE-0805CM181KTT	180 @ 100 MHz	±5% (J), ±2% (G)	50 @ 250 MHz	875	0.69	300
PE-0805CM221KTT	220 @ 100 MHz	±5% (J), ±2% (G)	45 @ 250 MHz	800	0.85	300
PE-0805CM271KTT	270 @ 100 MHz	±5% (J), ±2% (G)	40 @ 100 MHz	800	0.90	300
PE-0805CM331KTT	330 @ 100 MHz	±5% (J), ±2% (G)	40 @ 100 MHz	775	1.28	300
PE-0805CM391KTT	390 @ 100 MHz	±5% (J), ±2% (G)	40 @ 100 MHz	725	1.70	300
PE-0805CM471KTT	470 @ 100 MHz	±5% (J), ±2% (G)	38 @ 100 MHz	600	3.25	240
PE-0805CM561KTT	560 @ 100 MHz	±5% (J), ±2% (G)	40 @ 100 MHz	600	3.10	240
PE-0805CM681KTT	680 @ 50 MHz	±5% (J), ±2% (G)	32 @ 50 MHz	550	3.50	240
PE-0805CM821KTT	820 @ 50 MHz	±5% (J), ±2% (G)	23 @ 50 MHz	215	2.35	200

Surface Mount

***NOTE:** Referenced part is Standard Tolerance, 10% (K). To order parts with optional tolerances, see the Part Number Ordering Guide on the last page of this section.

RF Chip Inductors

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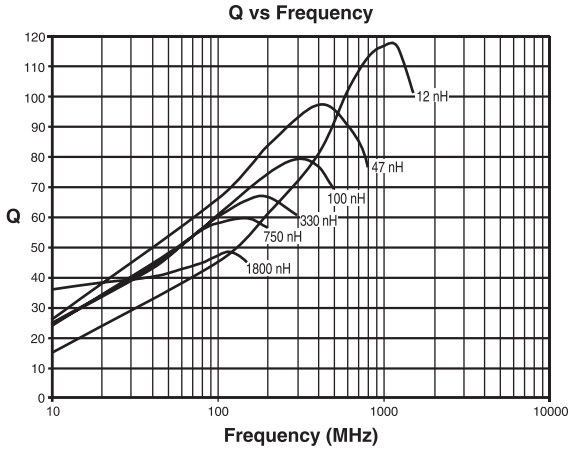

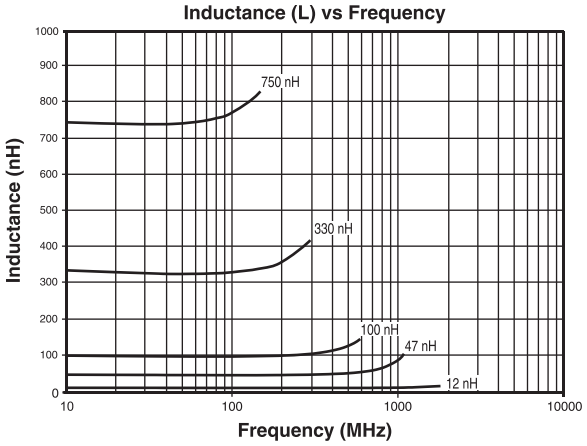

INDUSTRY STANDARD PERFORMANCE *(continued)*

Part Number	Inductance (nH)	Optional Tolerance	Q (MIN)	SRF (MHz MIN)	R_{DC} (Ω MAX)	I_{DC} (mA MAX)
1008CM Series						
PE-1008CM100KTT	10 @ 50 MHz	±5% (J), ±2% (G)	50 @ 500 MHz	4500	0.09	1000
PE-1008CM120KTT	12 @ 50MHz	±5% (J), ±2% (G)	65 @ 500 MHz	2300	0.09	1000
PE-1008CM150KTT	15 @ 50 MHz	±5% (J), ±2% (G)	55 @ 500 MHz	1850	0.19	1000
PE-1008CM180KTT	18 @ 50 MHz	±5% (J), ±2% (G)	55 @ 350 MHz	2200	0.06	1000
PE-1008CM220KTT	22 @ 50 MHz	±5% (J), ±2% (G)	55 @ 350 MHz	1800	0.09	1000
PE-1008CM270KTT	27 @ 50 MHz	±5% (J), ±2% (G)	60 @ 350 MHz	1500	0.11	1000
PE-1008CM330KTT	33 @ 50 MHz	±5% (J), ±2% (G)	60 @ 350 MHz	1800	0.18	800
PE-1008CM390KTT	39 @ 50 MHz	±5% (J), ±2% (G)	70 @ 350 MHz	1400	0.12	1000
PE-1008CM470KTT	47 @ 50 MHz	±5% (J), ±2% (G)	70 @ 350 MHz	1200	0.08	1000
PE-1008CM560KTT	56 @ 50 MHz	±5% (J), ±2% (G)	60 @ 350 MHz	1150	0.12	1000
PE-1008CM680KTT	68 @ 50 MHz	±5% (J), ±2% (G)	70 @ 350 MHz	1100	0.07	1000
PE-1008CM820KTT	82 @ 50 MHz	±5% (J), ±2% (G)	65 @ 350 MHz	950	0.14	950
PE-1008CM101KTT	100 @ 25 MHz	±5% (J), ±2% (G)	65 @ 350 MHz	900	0.15	650
PE-1008CM121KTT	120 @ 25 MHz	±5% (J), ±2% (G)	60 @ 350 MHz	825	0.22	650
PE-1008CM151KTT	150 @ 25 MHz	±5% (J), ±2% (G)	50 @ 100 MHz	625	0.16	580
PE-1008CM161KTT	160 @ 25 MHz	±5% (J), ±2% (G)	50 @ 100 MHz	625	0.25	600
PE-1008CM181KTT	180 @ 25 MHz	±5% (J), ±2% (G)	50 @ 100 MHz	650	0.25	600
PE-1008CM201KTT	200 @ 25 MHz	±5% (J), ±2% (G)	50 @ 100 MHz	630	0.24	580
PE-1008CM221KTT	220 @ 25 MHz	±5% (J), ±2% (G)	50 @ 100 MHz	625	0.28	500
PE-1008CM271KTT	270 @ 25 MHz	±5% (J), ±2% (G)	45 @ 100 MHz	525	0.50	500
PE-1008CM331KTT	330 @ 25 MHz	±5% (J), ±2% (G)	50 @ 100 MHz	500	0.80	450
PE-1008CM371KTT	370 @ 25 MHz	±5% (J), ±2% (G)	50 @ 100 MHz	490	0.80	430
PE-1008CM391KTT	390 @ 25 MHz	±5% (J), ±2% (G)	50 @ 100 MHz	475	0.75	425
PE-1008CM401KTT	400 @ 25 MHz	±5% (J), ±2% (G)	50 @ 100 MHz	470	0.75	420
PE-1008CM471KTT	470 @ 25 MHz	±5% (J), ±2% (G)	50 @ 100 MHz	450	0.70	350
PE-1008CM561KTT	560 @ 25 MHz	±5% (J), ±2% (G)	50 @ 100 MHz	425	0.80	350
PE-1008CM621KTT	620 @ 25 MHz	±5% (J), ±2% (G)	45 @ 100 MHz	375	1.90	200
PE-1008CM681KTT	680 @ 25 MHz	±5% (J), ±2% (G)	45 @ 100 MHz	375	2.30	200
PE-1008CM751KTT	750 @ 25 MHz	±5% (J), ±2% (G)	45 @ 100 MHz	350	1.60	200
PE-1008CM821KTT	820 @ 25 MHz	±5% (J), ±2% (G)	40 @ 100 MHz	325	3.30	200
PE-1008CM911KTT	910 @ 25 MHz	±5% (J), ±2% (G)	40 @ 50 MHz	300	2.10	200
PE-1008CM102KTT	1000 @ 25 MHz	±5% (J), ±2% (G)	40 @ 50 MHz	300	1.80	200
PE-1008CM122KTT	1200 @ 10 MHz	±5% (J), ±2% (G)	40 @ 50 MHz	250	3.00	200
PE-1008CM152KTT	1500 @ 10 MHz	±5% (J), ±2% (G)	40 @ 50 MHz	200	4.00	150
PE-1008CM182KTT	1800 @ 10 MHz	±5% (J), ±2% (G)	40 @ 50 MHz	150	5.09	150
PE-1008CM222KTT	2200 @ 10 MHz	±5% (J), ±2% (G)	30 @ 25 MHz	80	5.85	150
PE-1008CM272KTT	2700 @ 10 MHz	±5% (J), ±2% (G)	30 @ 25 MHz	90	7.70	150
PE-1008CM332KTT	3300 @ 10 MHz	±5% (J), ±2% (G)	25 @ 15 MHz	40	7.80	150
PE-1008CM392KTT	3900 @ 10 MHz	±5% (J), ±2% (G)	20 @ 15 MHz	35	8.30	135
PE-1008CM472KTT	4700 @ 10 MHz	±5% (J), ±2% (G)	16 @ 15 MHz	25	6.00	150

Surface Mount

***NOTE:** Referenced part is Standard Tolerance, 10% (K). To order parts with optional tolerances, see the Part Number Ordering Guide on the first page of this section.

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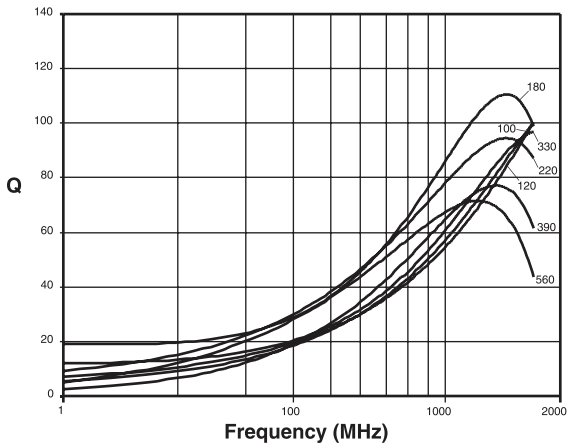
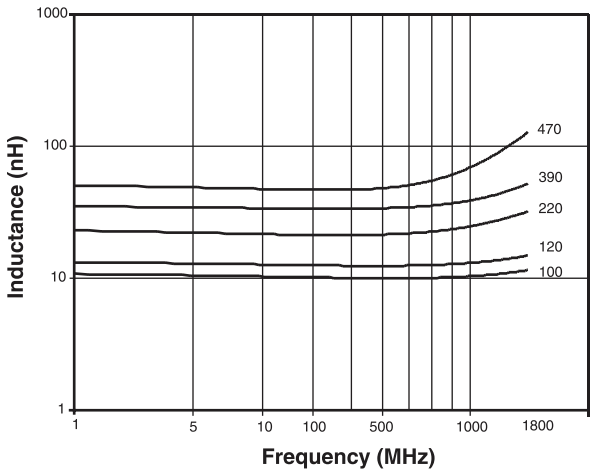
Q vs Frequency



Inductance (L) vs Frequency



ALTERNATIVE INDUCTANCE & Q vs FREQUENCY, HIGH SIDE METALLIZATION

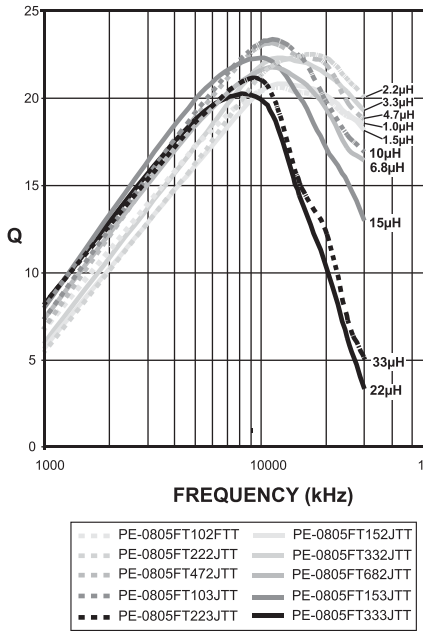
Part Number	Inductance (nH)	Optional Tolerance	Q (MIN)	SRF (MHz MIN)	R_{DC} (Ω MAX)	I_{DC} (mA MAX)
1008CQ Series						
PE-1008CQ4N1KTT	4.1 @ 50 MHz	±5% (J)	75 @ 1500 MHz	6000	0.05	1600
PE-1008CQ100KTT	10 @ 50 MHz	±5% (J)	60 @ 500 MHz	3600	0.06	1600
PE-1008CQ120KTT	12 @ 50 MHz	±5% (J)	70 @ 500 MHz	2800	0.06	1500
PE-1008CQ180KTT	18 @ 50 MHz	±5% (J)	62 @ 350 MHz	2700	0.07	1400
PE-1008CQ220KTT	22 @ 50 MHz	±5% (J)	62 @ 350 MHz	2050	0.07	1400
PE-1008CQ330KTT	33 @ 50 MHz	±5% (J)	75 @ 350 MHz	1700	0.09	1300
PE-1008CQ390KTT	39 @ 50 MHz	±5% (J)	75 @ 350 MHz	1300	0.09	1300
PE-1008CQ470KTT	47 @ 50 MHz	±5% (J)	75 @ 350 MHz	1450	0.12	1200
PE-1008CQ560KTT	56 @ 50 MHz	±5% (J)	75 @ 350 MHz	1230	0.12	1200
PE-1008CQ680KTT	68 @ 50 MHz	±5% (J)	80 @ 350 MHz	1150	0.13	1100
PE-1008CQ820KTT	82 @ 50 MHz	±5% (J)	80 @ 350 MHz	1060	0.16	1100
PE-1008CQ101KTT	100 @ 50 MHz	±5% (J)	62 @ 350 MHz	820	0.16	1000
PE-1008CQ121KTT	120 @ 50 MHz	±5% (J)	62 @ 350 MHz	800	0.17	1000
PE-1008CQ151KTT	150 @ 50 MHz	±5% (J)	60 @ 350 MHz	750	0.21	950
PE-1008CQ181KTT	180 @ 50 MHz	±5% (J)	40 @ 350 MHz	720	0.23	920
PE-1008CQ221KTT	220 @ 50 MHz	±5% (J)	35 @ 350 MHz	680	0.29	900
PE-1008CQ271K TT	270 @ 50 MHz	±5% (J)	35 @ 350 MHz	600	0.55	600
PE-1008CQ331KTT	330 @ 50 MHz	±5% (J)	35 @ 100 MHz	550	0.60	550
PE-1008CQ391KTT	390 @ 50 MHz	±5% (J)	35 @ 350 MHz	500	0.82	470

Surface Mount

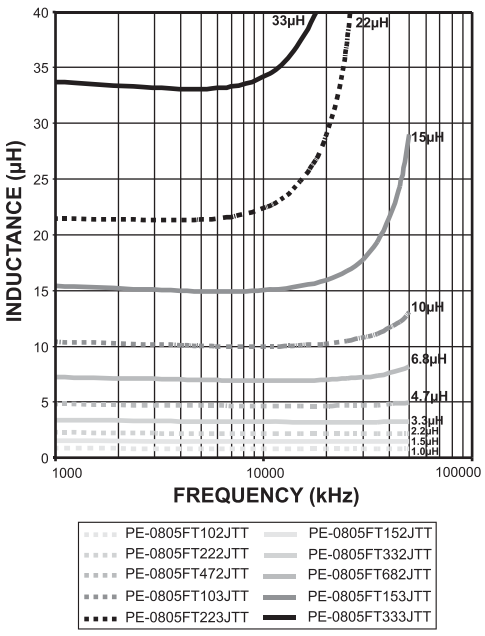
*__NOTE:__ Referenced part is Standard Tolerance, 10% (K). To order parts with optional tolerances, see the Part Number Ordering Guide on the last page of this section.

RF Chip Inductors

Q vs Frequency



Inductance (L) vs Frequency



FERRITE CORE

Part Number	Inductance (µH)	Optional Tolerance	Q (MIN)	SRF (MHz MIN)	R_{DC} (Ω MAX)	I_{DC} (mA MAX)
0805FT Series						
PE-0805FT102KTT	1.0 @ 7.96C MHz	±5% (J)	15 @ 7.96 MHz	63	1.20	245
PE-0805FT152KTT	1.5 @ 7.96 MHz	±5% (J)	15 @ 7.96 MHz	60	1.45	225
PE-0805FT222KTT	2.2 @ 7.96 MHz	±5% (J)	15 @ 7.96 MHz	58	1.80	200
PE-0805FT332KTT	3.3 @ 7.96 MHz	±5% (J)	15 @ 7.96 MHz	50	2.30	175
PE-0805FT472KTT	4.7 @ 7.96 MHz	±5% (J)	15 @ 7.96 MHz	43	2.80	140
PE-0805FT682KTT	6.8 @ 7.96 MHz	±5% (J)	15 @ 7.96 MHz	36	3.40	115
PE-0805FT103KTT	10 @ 2.52 MHz	±5% (J)	10 @ 2.52 MHz	30	4.70	98
PE-0805FT153KTT	15 @ 2.52 MHz	±5% (J)	10 @ 2.52 MHz	23	6.50	80
PE-0805FT223KTT	22 @ 2.52 MHz	±5% (J)	10 @ 2.52 MHz	20	8.00	68
PE-0805FT333KTT	33 @ 2.52 MHz	±5% (J)	10 @ 2.52 MHz	17	10.70	60
PE-0805FT473KTT	47 @ 2.52 MHz	±5% (J)	10 @ 2.52 MHz	14	13.80	55
PE-0805FT683KTT	68 @ 2.52 MHz	±5% (J)	8 @ 2.52 MHz	11	17.50	49

Surface Mount

***NOTE:** Referenced part is Standard Tolerance, 10% (K). To order parts with optional tolerances, see the Part Number Ordering Guide on the last page of this section.

ChipChokes™

ChipChoke™ CCMC Series for USB and LVDS

Pulse ChipChokes are designed to eliminate virtually all common mode noise in high-speed, differential mode signal transmission applications such as USB 2.0, IEEE1394 and LVDS (Low Voltage Differential Signaling).

These dual-wound ChipChokes have an industry standard footprint and low DC resistance. They are available in nine impedance values to meet your specific requirements.

To select the appropriate common mode choke (ChipChokes) for your application, "2-Line Chip-type Common Mode Chokes" data sheet, W712, is available at *http://www.pulseeng.com/index.php?848*. Then choose the title "RF Inductors" and a list will appear below it. Locate the W712 link and the PDF will download.

Part Number Legend

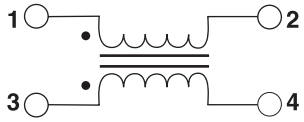
PE - 0805 CCMC 670 S T H

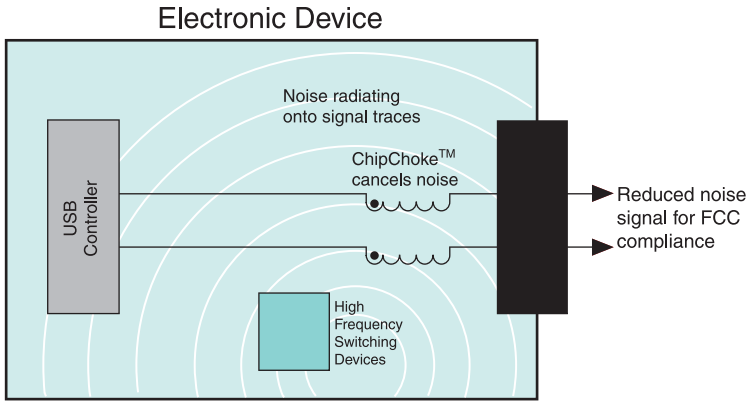
- **PACKAGE SIZE** (0805 or 1206)
- **ChipChoke™ COMMON MODE CHOKES**
- **IMPEDANCE (Ω)** Representative of the impedance value
- **TOLERANCE** S = 25%(standard)
- **PACKAGING** T = Tape & Reel (7 reel)

SIZE	QTY/REEL
0805	2000 pieces
1206	2000 pieces

- **COATING** S = Magnetic Shield, H = Epoxy Coating

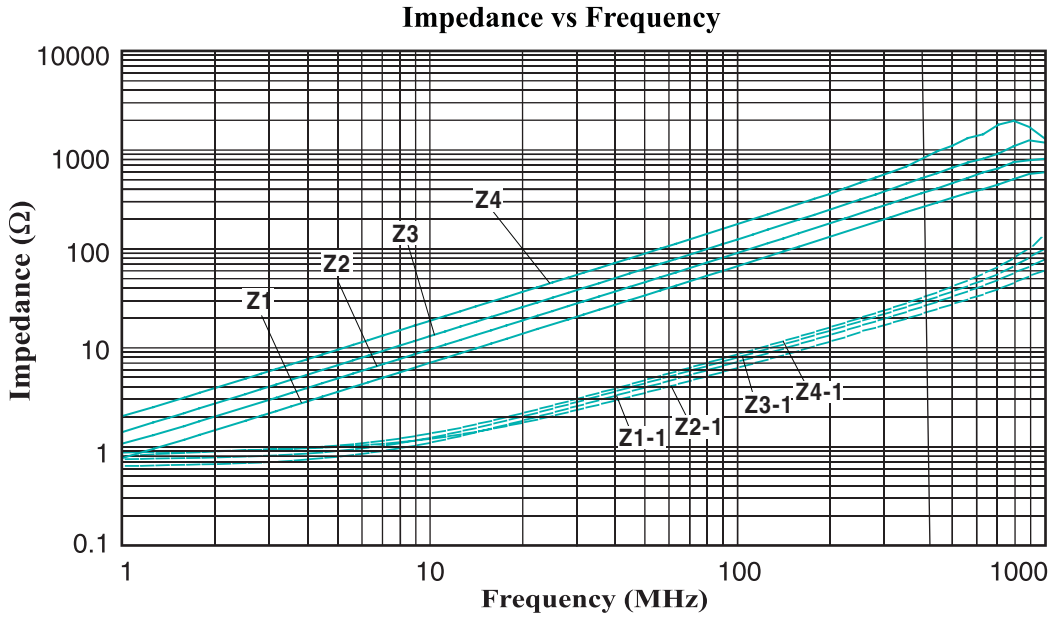
Schematic





ChipChokes™

PE-0805CCMCXXXSTH



Common Mode	
ITEM	PART NUMBER
Z-1	PE-0805CCMC670STH
Z-2	PE-1206CCMC900STH
Z-3	PE-1206CCMC121STH
Z-4	PE-1206CCMC181STH

Differential Mode	
ITEM	PART NUMBER
Z-1-1	PE-0805CCMC670STH
Z-2-1	PE-1206CCMC900STH
Z-3-1	PE-1206CCMC121STH
Z-4-1	PE-1206CCMC181STH

ChipChokes CCMC SERIES FOR USB and LVDS *(Low Voltage Differential Signaling)*

Part Number [1, 2] Standard Tolerance (25%)	Common Mode Impedance @ 100 MHz (Ω)	DC Resistance (Ω MAX)	Rated Voltage (VDC)	Rated Current (mA MAX)	Withstanding (VDC)	Insulation Resistance (mΩ MIN)
0805CCMCXXXSTH - Epoxy Coating - 0805 Size						
PE-0805CCMC670STH	67	0.35	50	330	125	10
PE-0805CCMC900STH	90	0.40	50	300	125	10
PE-0805CCMC121STH	120	0.45	50	280	125	10
PE-0805CCMC181STH	180	0.50	50	250	125	10

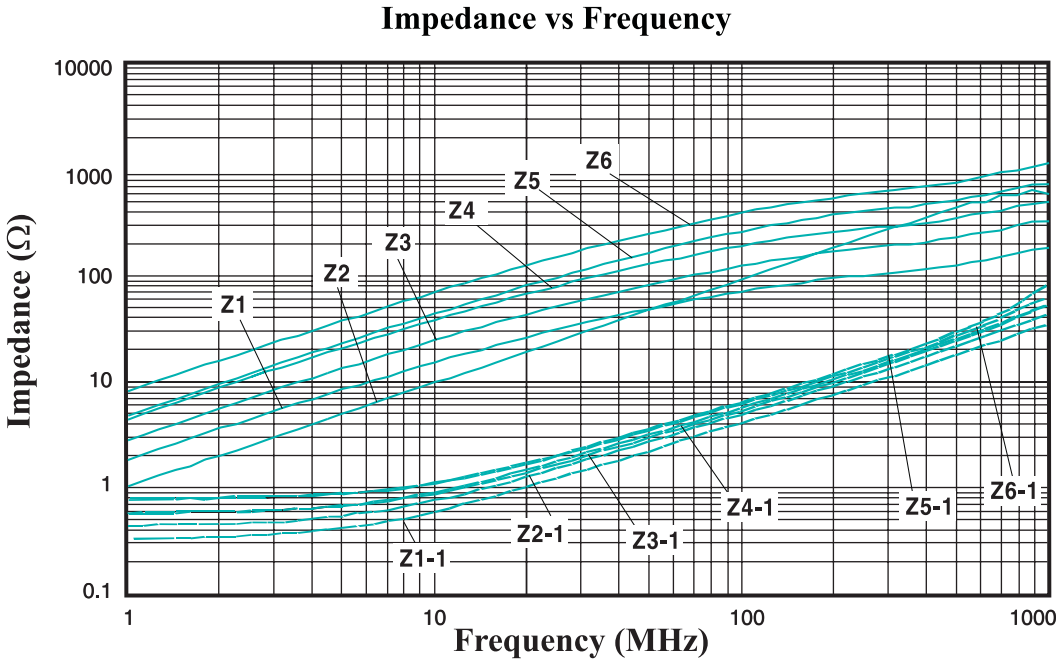
1. All ChipChoke part numbers are RoHS compliant. No additional suffix or identifier is required.

Surface Mount

***NOTE:** Referenced part is Standard Tolerance, 10% (K). To order parts with optional tolerances, see the Part Number Ordering Guide on the last page of this section.

ChipChokes™

PE-0805CCMCXXXSTS



Common Mode	
ITEM	PART NUMBER
Z-1	PE-0805CCMC670STS
Z-2	PE-0805CCMC900STS
Z-3	PE-0805CCMC121STS
Z-4	PE-0805CCMC181STS
Z-5	PE-0805CCMC261STS
Z-6	PE-0805CCMC361STS

Differential Mode	
ITEM	PART NUMBER
Z-1-1	PE-0805CCMC670STS
Z-2-1	PE-0805CCMC900STS
Z-3-1	PE-0805CCMC121STS
Z-4-1	PE-0805CCMC181STS
Z-5-1	PE-0805CCMC261STS
Z-6-1	PE-0805CCMC361STS

ChipChokes CCMC SERIES FOR USB and LVDS (Low Voltage Differential Signaling)

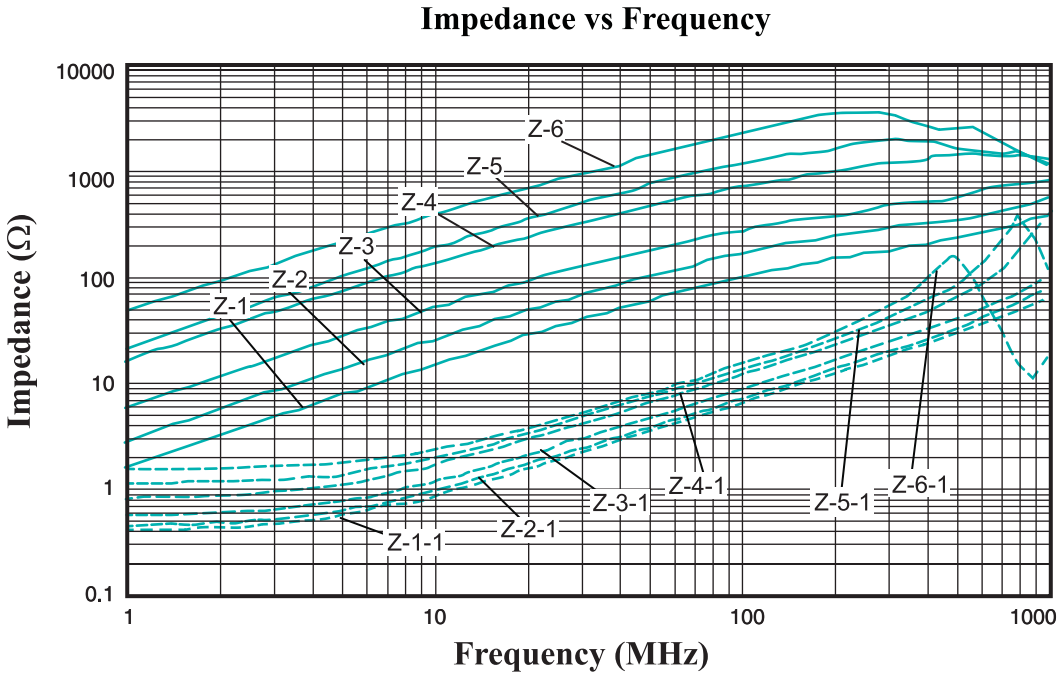
Part Number[1,2] Standard Tolerance (25%)	Common Mode Impedance @ 100 MHz (Ω)	DC Resistance (Ω MAX)	Rated Voltage (VDC)	Rated Current (mA MAX)	Withstanding Voltage (VDC)	Insulation Resistance (MΩ MIN)
0805CCMCXXXSTS - Magnetic Shield - 0805 Size						
PE-0805CCMC670STS	67	0.25	50	400	125	10
PE-0805CCMC900STS	90	0.35	50	330	125	10
PE-0805CCMC121STS	120	0.30	50	370	125	10
PE-0805CCMC181STS	180	0.35	50	330	125	10
PE-0805CCMC261STS	260	0.40	50	300	125	10
PE-0805CCMC361STS	360	0.45	50	280	125	10

1. All ChipChoke part numbers are RoHS compliant. No additional suffix or identifier is required.

Surface Mount

***NOTE:** Referenced part is Standard Tolerance, 10% (K). To order parts with optional tolerances, see the Part Number Ordering Guide on the last page of this section.

PE-1206CCMCXXXSTS



Common Mode	
ITEM	PART NUMBER
Z-1	PE-1206CCMC900STS
Z-2	PE-1206CCMC161STS
Z-3	PE-1206CCMC261STS
Z-4	PE-1206CCMC601STS
Z-5	PE-1206CCMC102STS
Z-6	PE-1206CCMC222STS

Differential Mode	
ITEM	PART NUMBER
Z-1-1	PE-1206CCMC900STS
Z-2-1	PE-1206CCMC161STS
Z-3-1	PE-1206CCMC261STS
Z-4-1	PE-1206CCMC601STS
Z-5-1	PE-1206CCMC102STS
Z-6-1	PE-1206CCMC222STS

ChipChokes CCMC SERIES FOR USB and LVDS (Low Voltage Differential Signaling)

Part Number [1, 2] Standard Tolerance (25%)	Common Mode Impedance @ 100 MHz (Ω)	DC Resistance (Ω MAX)	Rated Voltage (VDC)	Rated Current (mA MAX)	Withstanding Voltage (VDC)	Insulation Resistance (MW MIN)
1206CCMCXTS - Magnetic Shield - 1206 Size						
PE-1206CCMC900STS	90	0.30	50	370	125	10
PE-1206CCMC161STS	160	0.40	50	340	125	10
PE-1206CCMC261STS	260	0.50	50	310	125	10
PE-1206CCMC601STS	600	0.80	50	260	125	10
PE-1206CCMC102STS	1000	1.00	50	230	125	10
PE-1206CCMC222STS	2200	1.20	50	200	125	10

1. All ChipChoke part numbers are RoHS compliant. No additional suffix or identifier is required.

Surface Mount

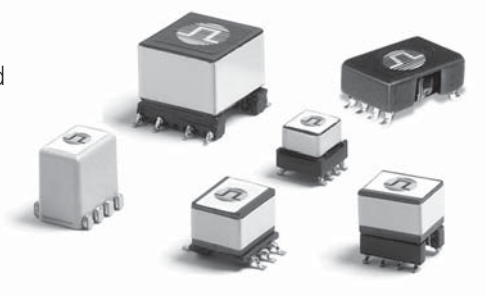
***NOTE:** Referenced part is Standard Tolerance, 10% (K). To order parts with optional tolerances, see the Part Number Ordering Guide on the last page of this section.

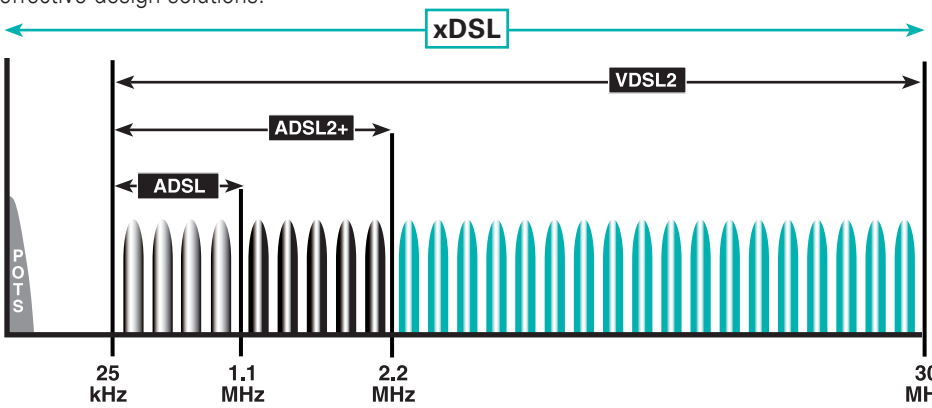
xDSL & HPN PRODUCTS

Broadband has come a long way in the past few years. Pulse continues to lead the way with a broad range of components that enable twisted-pair copper, fiber and coaxial cable to deliver high-speed services to homes and businesses. Pulse components are also used in cable modems and the consumer electronics that provide home networking services.

Our high-performance transformers, inductors and splitter filter modules support ADSL, VDSL, VoIP, CO/CPE splitters, and home phoneline and power line networks. These transformers are designed to exceed ANSI and ETSI standards, and have excellent THD performance and small footprints. Surface mount models are available upon request.

Our splitter/filter modules are part of the SMART™ family, offering convenient and cost-effective design solutions.





ADSL uses frequencies up to 1.1 MHz. But, later variations ADSL2+ and VDSL2 make use of a wider frequency band in order to achieve higher data rates. Use of these higher frequencies requires higher performance components.

HOME NETWORKING PRODUCTS

Filters

Part Number	Primary Application	Secondary Application	Isolation Voltage	Data Sheet
CopperGate HPNA3 Chipset				
B6104NL	HPNA	—	1500	B891
B6105NL	HPNA	—	1500	B891
B6106NL	HPNA	—	1500	B891
Entropic: c.LINK™				
C6039	MoCA®	—	—	C250

Transformers

Part Number	Application	Turns Ratio	Inductance (µH MIN)	Isolation Voltage ( )	Data Sheet
PE-68629	UPA/PLC	1:1	40	3000	T606
B6080	HomePlug	1:1	250	2000	B805

COMMON MODE CHOKES

For ADSL/VDSL[1]

Part Number	Common Mode Attenuation (dB TYP)			Isolation Voltage (VRMS)	Data Sheet
	500 kHz	1 MHz	10 MHz		
B2005NL	45	47	43	1500	B902
B2013NL	45	47	43	1500	B902
BX8213NL	45	47	43	500	B829
B4001NL[1]	45	49	35	1500	B912
B4003NL[1]	45	49	35	1500	B912
BX4053NL[2]	45	49	35	1500	B912
PE-65885NL	40	51	38	500	T626
	30 kHz	1 MHz	2 MHz		
BX8191NL	30	51	45	1500	B824
BX8192NL[2]	30	51	45	1500	B824

1. To reduce** common mode noise from AM or HAM radio* ***2. Dual

SMT - Surface Mount Package **THT** - Through Hole Package

VDSL TRANSFORMERS

VDSL Hybrid Transformers

Part Number	Insertion Loss (dB MAX)		Isolation Voltage (VRMS)	Impedance (Ω)		Data Sheet
	100 kHz - 20 MHz	300 kHz - 30 MHz		TX	RX	
Infineon: 2-band, 4-band and 10Base-T Chipsets						
BX4036 (120 Ω)	0.50 to 2	—	1500	40	270	B808
Broadcom: BCM 6010 Chipset				**Turns Ratios**		
B4008	—	0.50	2000	2:1	1:1	B925
B4025	—	0.50	2000	2:1	1:1	B925
BX4030[1]	—	0.70	2500	2:1	1:1	B984

***1. BX4030** is an extended bandwith version tested up to 30 MHz.*

VDSL Line Transformers & Chipsets

Part Number	Inductance (µH ±10%)	Isolation Voltage (VRMS)	Turns Ratio TX	Turns Ratio RX	Data Sheet
General Use					
B4004	—	1500	1CT:1CS	—	B975
B4006	—	3000	1:1	—	B975
B4023	—	3000	1:1CT	—	B975
Broadcom: BCM 6315 Chipset					
B4020	190	3000	1CT:1CT	—	B981
B4021	190	1500	1CT:1CT	—	B981
BX4055	190	1500	1:1	—	B981
BX4056	190	1500	1:1.16	—	B981
Broadcom: VDSL2 BCM 6505 Chipset					
BX4157L	420	1500	1:2	—	B894
BX4167L	100	1500	1:2	—	B894
Conexant: VDSL2 Accelity Chipset					
BX4131W	800	1500	2:1	—	B877
BX4120L	800	1500	1.1:1	—	B877
Ikanos: SmartLeap Chipset					
BX4052W[1]	1.30	1500	3:1	—	B831
BX4082W[1]	1.30	1500	3:1	—	B831

***1. BX4052W** supplementary insulation; **BX4082W** operational insulation per IEC 950 250 VRMS*

xDSL & HPN PRODUCTS

VDSL TRANSFORMERS *(continued)*

VDSL Line Transformers & Chipsets

Part Number	Inductance (µH ±10%)	Isolation Voltage (VRMS)	Turns Ratio TX	Turns Ratio RX	Data Sheet
Ikanos: VDSL Chipset					
BX4154L	340	1500	1.5:1	—	B887
BX4185L	340	1500	1.86:1	—	B887
BX4187L	100	1500	1.86:1	—	B887
BX4197L	470	1500	1.86:1	—	B887
Infineon: VDSL5000i and 6000i CO/CPE* Chipsets					
BX4102W	2000	1500	4:3	—	B874
BX4104W	770	1500	1:1.16	—	B875
BX4107	800	1500	4:3	—	B876
Infineon: VDSL2 Chipsets					
BX4175WNL	270	1500	4:3	—	B875
Metalink: VDSL Chipset					
B4033	1000	1500	1:3	2:3	B998
B4034	1600	1500	1:3.5	2:3.5	B998
Metalink: MTV9141 Chipset					
B4064	1130	1500	1:3.6	2:3.6	B846
Metalink: MTV9142 Chipset					
BX4081W	280	1500	1:3	2:3.6	B846
Texas Instruments TNETD8000 Chipset					
B4020	190	3000	1CT:1CT	—	B981
B4021	190	1500	1CT:1CT	—	B981

VDSL Filter Solutions

Part Number	Passband Frequency	Insertion Loss (dB MAX)	Return Loss (dB MIN)	Impedence (Ω) TX	Impedence (Ω) RX	Data Sheet
Infineon: PEB2281X Chipset - ISDN Splitter LPF						
B4010	20 kHz–120 kHz	0.4	20	150	150	B931
Digital Phone Splitter LPF						
B4031	10 kHz–600 kHz	1.0	12	150	150	B987
Bandpass Filter & Hybrid Transformers						
B4011 (135 Ω)	900 kHz–7.9 MHz	0.5	10	40	270	B931
B4014 (100 Ω)	900 kHz–7.9 MHz	0.5	10	40	270	B931
B4032 (120Ω)	900 kHz–7.9 MHz	0.8	10	40	270	B987
Filters, Transmit & Receive						
B4012	4.5 MHz–7.9 MHz	0.8	12	—	270	B931
B4013	900 kHz–3.3 MHz	0.8	12	—	270	B931
B4015[1]	4.5 MHz–7.9 MHz	0.8	12	—	270	B931
B4016[1]	900 kHz–3.0 MHz	1.2	12	—	270	B931
B4017	900 kHz–3.0 MHz	0.8	10	40	—	B931
B4018	4.5 MHz–7.9 MHz	0.8	10	40	—	B931
Quadport CO Filter Modules for 2-band, 10Base-S Infineon Chipsets[3]						
BX4037[2]	1 MHz–7.9 MHz	1.5	12	40	270	B809
BX4038[2]	1 MHz–7.9 MHz	1.5	12	40	270	B809
Single Port CPE Filter Modules for PEB22811/12/22 Infineon Chipsets[4]						
BX4039[5]	1 MHz–7.9 MHz	1.0	12	40	270	B819
BX4040[5]	1 MHz–7.9 MHz	1.0	12	40	270	B819
Quadport CO Filter Modules for 4-band Plan 998 Infineon Chipsets[2]						
BX4041A	0.9 MHz–11.9 MHz	—	12	40	270	B832
BX4044	0.9 MHz–11.9 MHz	—	12	40	270	B832
Single Port CPE Filter Modules for 4-band Plan 998 Infineon Chipsets[3]						
BX4042	0.13 MHz–11.9 MHz	—	12	40	270	B833
BX4045	0.13 MHz–11.9 MHz	—	12	40	270	B833

1. ***High*** *performance*
2. ***BX4037*** *for ADSL over ISDN,* ***BX4038*** *for Smartphone applications*
3. ***Including*** *HPF splitter, hybrid transformer, TX & RX separation filters and common mode chokes*
4. ***Including*** *HPF splitter, hybrid transformer, TX & RX separation filters*
5. ***BX4039*** *for over ISDN,* ***BX4040*** *for Smartphone applications*

ADSL TRANSFORMERS

ADSL Transformers & Chipsets

Part Number	Application*	Isolation Voltage (VRMS)	Turns Ratio Chip-Line	Inductance (µH ±10%)	Data Sheet
Analog Devices: AD20msp910/AD20msp918 ADSL Chipsets					
B2031	CO/CPE	1500	1:1	5000	B906
B2032	CO/CPE	1500	1:1	5000	B906
B2104	CO/CPE	1500	1:1.27	2000	B950
B2105	CO/CPE	1500	1:1.27	2000	B950
Analog Devices: AD20msp930 ADSL Chipset					
B2136	CO	1500	1:1.1	1750	B955
B2137[1]	CO	1500	1:1.1	1750	B955
B2162[1]	CO	1500	1:1.1	1750	B957
B2168[1]	ADSL/ISDN CO	1500	1:1	100	B955
B2188	ADSL/ISDN CO	1500	1:1	100	B955
Analog Devices: Eagle I & Eagle II					
BX2506J[1]	CPE	1500	1:2.29	1200	B840
Broadcom: BCM6410/20 - ADSL Bladerunner Chipsets					
BX2303WA[1]	ADSL/ISDN CO	1500	1:1.41	100	B811
BX2302WA[1]	CO	1500	1:1.41	410	B811
BX2619W[1]	CO	1500	1:2	420	B811
BX2644L[1]	CO	1599	1:2	420	B811
Broadcom: BCM6335 and BCM6345					
BX2483W[1]	CPE	1500	1:2	410	B847
Broadcom: BCM6335 and BCM6338					
BX2542L[1]	CPE	1500	1:4.25/1:1	400	B848
BX2606LNL[1]	ADSL/ISDN CPE	1500	1:4.25/1:1	100	B848
Centillium: CT-L50SC04/CT-L50ST81, CT-L21SC08/CT-L41SC04 ADSL Chipsets					
B2178[1]	CO	1500	1:1	450	B979
B2189[1]	CO/CPE	1500	1:1.8	450	B979
Centillium: CT-L21ST30, CT-L22Sx15/30, CT-L4xSx15/30, CT-L5/L6xSx81 ADSL Chipsets					
BX2353[1]	CPE	1500	1:2.13	5000	B999
BX2358[1]	CPE	1500	1:1	5000	B999
Centillium: Palladia CPT73X01 CPE ADSL Chipsets					
BX2460[1]	CPE	1500	1:2.5	5000	B828
BX2462[1]	CPE	1500	1:1	5000	B828
Centillium: CT-L53/63/73SC08 ADSL Chipsets					
BX2347	CO	1500	1:1	850	B994
BX2348[1]	CO	1500	1:1	850	B994
BX2380	CO	1500	1:1.8	850	B994
BX2349[1]	CO	1500	1:1.8	850	B994
Centillium: MAXIMUS ADSL Chipsets					
BX2349[1]	CO	1500	1:1.8	850	B994
BX2538L[1]	CO	1500	1:1.2	850	B839
Conexant: ADSL G7000 DMT Chipset					
BX2564W[1]	CO	1500	1:0.92	850	B867
B2139	CPE	1875	1:1	407	B958
Conexant: Titanium Forte ADSL Chipsets					
BX2367[1]	CO	1500	1:2	474	B997
BX2369JB/WA[1,3]	CO	1500	1:1.41	474	B991
BX2372JB/WA[1,3]	CO	1500	1:1.15	474	B991
Conexant: Jupiter, Saturn G16, G18, Octane ADSL Chipsets					
B2414JB[1,3]	CO	1500	1:0.95	750	B991
Conexant: Octane, G24 ADSL Chipsets with Intersil Drivers					
B2517JB[1]	CO	1500	1:0.95	760	B836
BX2485L[1]	CO	1500	1:0.9	1000	B836
BX2575L[1]	CO	1500	1:0.9	1000	B864
Conexant: Octane Plus ADSL Chipsets with Intersil Drivers					
BX2511L[1]	CO	1500	1:0.9	1000	B862
BX2512J[1]	CO	1500	1:0.9	1000	B862

1. ***When*** *ordering Tape & Reel on SMT parts, add a "T" suffix to the part number.*
3. ***Alternative*** *footprint options are on the data sheet.*

Continued on next page

SMT - Surface Mount Package **THT** - Through Hole Package

*** CO** - Central Office, - Customer Premises Equipment

xDSL & HPN PRODUCTS

ADSL TRANSFORMERS *(continued)*

ADSL Transformers & Chipsets *(continued)*

Part Number	Application*	Isolation Voltage (VRMS)	Turns Ratio Chip-Line	Inductance (µH ±10%)	Data Sheet
Conexant: Octane, G24 ADSL Chipsets with Legerity Drivers					
BX2510W[1]	CO	1500	1:0.408	750	B855
BX2516W[1]	CO	1500	1:0.408	1100	B855
BX2572W[1]	ADSL/ISDN CO	1500	1:0.408	100	B854
Conexant: Viking and Café CPE ADSL Chipsets					
BX2577L[1]	CPE	1500	1:4/1:2	700	B841
Infineon: PEB22716 - GEMINAX ADSL Chipset					
BX2274J[1]	CO	1500	1.33:1	1400	B812
BX2569L[1]	CO	1500	1.31:1	1400	B895
Infineon: Amazon ADSL Chipset					
BX2913LNL[1]	CPE	1500	1:4.2/1:2	1400	B889
BX2917LNL[1]	ADSL/ISDN CPE	1500	1:3/6/1:1.85	200	B889
Texas Instruments: TNETD4000C ADSL Chipset					
B2132[1]	CO	1500	1:1.95	1500	B954
Texas Instruments: TNETD4500x ADSL Chipset					
B2243[1]	CO	1500	1:2	400	B823
B2133[1]	ADSL/ISDN CO	1500	1:2	75	B823
Texas Instruments: AC5, AC6 Chipset					
B2205[1]	CO	1500	1:1.9	400[2]	B985
BX2375[1]	ADSL/ISDN CO	1500	1:1.9	92.5	B985
Texas Instruments: AC7 CO Chipset					
BX2513W[1]	CO	1500	1:1.11	400[2]	B873
Texas Instruments: AP5, AR5, and AU5 Chipsets					
BX2361[1]	CPE	1500	1:2	1500[2]	B988
BT2361[1]	CPE	1500	1:2	1500[2]	B806
BX2382[1]	CPE	1500	1:2	1500[2]	B988
Texas Instruments: AP7, AR7, and AU7 Chipsets					
BX2479H	CPE	1500	1:2	1500	B834
BX2479W[1]	CPE	1500	1:2	1500	B834
BX2243H	ADSL/ISDN CPE	1500	1:2	400	B834

1. ***When** ordering Tape & Reel on SMT parts, add a "T" suffix to the part number.*
2. ***±5%***
3. ***Alternative** footprint options are on the data sheet.*

HDSL2/G.SHDSL

Transformers

Part Number	Matched to:	Turns Ratio Chip-Line (±3%)	Inductance Line Side	Data Sheet
Infineon Chipsets				
B1093	PEB22622 PEF22623/24622 PEB22622	3.2:1:1	3.00	B993
B1063	PEF22623/24622	3.2:1:1	3.00	B993
BX1196L	Socrates	4.5:1	3.00	B888
BX1194W	PEB22622 PEF22623/24622	3.2:1:1	3.00	B835
Conexant Chipsets				
B1074B	Orion	1:5.4	3.00	B803

ADSL INDUCTORS

ADSL Inductors: Filters & Chipsets

Part Number	Inductance	DC Resistance (Ω Max 2 pair)	Isolation Voltage (VRMS)	Mounting	Data Sheet
Inductors for use in ADSL Filters					
B2023	6.0 mH ±5%	4.0	1500	THT	B902
B2024	4.0 mH ±5%	3.0	1500	THT	B902
B2025	3.0 mH ±5%	2.5	1500	THT	B902
B2026	10.0 mH ±5%	6.0	1500	THT	B902
B2086	4.0 mH ±10%	3.6	1500	SMT	B902
B2113	2.25 mH ±10%	2.25	500	THT	B902
B2114	1.425 mH ±10%	2.25	500	THT	B902
B2116	1.65 mH ±10%	2.25	500	THT	B902
B2117	1.35 mH ±10%	2.25	500	THT	B902
B2118	0.8 mH ±10%	2.0	500	THT	B902
B2184	91.0 µH ±7%	3.13	500	SMT	B843
B2198	74.06 µH ±7%	5.0	500	SMT	B843
BX2128	500 µH ±7%	12.0	500	SMT	B843
BX8082	140.0 µH ±7%	6.0	500	SMT	B843
Inductors for use with STMicroelectronics DynaMiTe Chipset					
B2061	282.5 µH ±5%	1.0	500	THT	B963
B2062	238.5 µH ±5%	0.76	500	THT	B963
B2099	500.5 µH ±10%	2.10	500	THT	B963
B2100	91.0 µH ±10%	0.85	500	THT	B963
B2101	96.0 µH ±5%	0.42	500	THT	B963
BX8115	500 µH ±7%	9.0	500	SMT	B843
BX8118	282 µH ±7%	9.0	500	SMT	B843
BX8153	5.0 µH ±7%	0.7	500	SMT	B843
BX8253W	185 µH ±7%	4.75	500	SMT	B843
BX8254W	110 µH ±7%	2.5	500	SMT	B843
Inductors for use with Centillium CT-L50SC04 Chipset					
B2208	170.0 µH ±7%	4.0	500	SMT	B843
B2209	300.0 µH ±7%	7.0	500	SMT	B843
B2210	455.0 µH ±7%	9.0	500	SMT	B843
Inductors for use with GlobespanVirata Chipset					
B2125A	50.0 µH ±7%	2.0	500	SMT	B843
B2126A	170.0 µH ±7%	6.5	500	SMT	B843
B2127A	340.0 µH ±7%	7.5	500	SMT	B843
B2155	205.0 µH ±7%	6.0	500	SMT	B843
BX8195	102.5 µH ±5%	6.0	500	SMT	B843
Inductors for use with Infineon IVD Chipset					
BX8027W	6.8 mH ±5%	5.0	500	SMT	B869
Inductors for use with Legerity CO Chipset					
BX8266L	32 mH ±10%	15	600	SMD	B804
BX8267L	16 mH min	15	600	SMD	B804

CUSTOMER PREMISE EQUIPMENT

DSL Microfilters

Part Number	Specification	Region
Z-330PJ	ANSI T1.421	North America
Z-369LS	Anatel Approved	Latin America
Z-470P2J	ETSI TS 101 952-1-5	Europe

NOTE: See CPE section for additional products and applications.

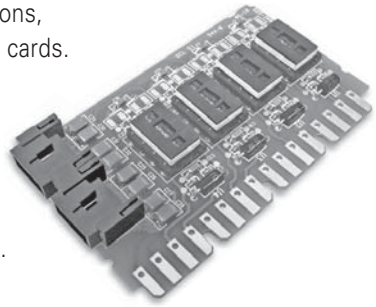
***CO** - Central Office, **CPE** - Customer Premises Equipment

SMT - Surface Mount Package **THT** - Through Hole Package

CO & CPE Products

CENTRAL OFFICE (CO*) DSL SPLITTER CIRCUITS FOR TELECOM APPLICATIONS

Our comprehensive line of CO splitter designs can be customized for various types of installations, including DSLAMs, rack-mount cards, cross-connect blocks, and main distribution frame (MDF) cards.

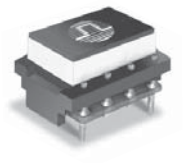


- Innovative, high-density designs, like the SmartER series, result in components that are one third the size of a typical design for this application.
- Delivers more channels on smaller cards.
- Scalable capacity from single-line to 96-lines.
- Customized solutions can be developed quickly, saving OEMs time and development costs.
- VDSL2 designs support TelcoTV and IPTV applications.

For assistance with a custom design, e-mail Pulse's Telecom Division at: *prodinfo_telecom@pulseeng.com.*

CO*& CPE* SPLITTER FILTER MODULES

SmartER™ xDSL High-density, Low Pass, Splitter/Filter Modules



Common pinout 12mm x 11mm (0.472" x 0.433")

SmartER™ Series: ADSL, ADSL2+, VDSL, VDSL2 Low Pass Filter Modules for CO and CPE*

RoHS Part Number [1]	Standard/Applications	Note/Comment	Data Sheet
B8802NL	XDSL/POTS ANSI T1.413	CO short loop and CPE	B703
B8813NL	XDSL/POTS ANSI T1.413	CO short and long loops	B706
B8817NL	XDSL/POTS China MII YD/T1187	relaxed spec	B704
B8841NL	ADSL/POTS 600 W ETSI A&B	—	B898
B8842NL	XDSL/ISDN 2B1Q/4B3T	—	B705
B8845NL	XDSL/ISDN 4B3T + POTS DT complex	—	B708
B8846NL	ADSL/POTS ETSI B complex and BT SIN-346 complex	—	B899
B8849NL	ADSL/POTS ETSI A complex	—	B893
B8859NL	ADSL/POTS ETSI A complex	12 kHz billing tone	B701

***1. Contact** Pulse for custom CO splitter or MDF boards.*

SMART™ Series: xDSL, Low Pass, Filter Modules[1] for CO and CPE*

Part Number [1]	RoHS	Standard/Applications [2]	Note/Comment	Data Sheet
B8041	B8041NL	ETSI 600 W-ADSL/POTS	—	B881
B8042	B8042NL	ETSI Ann B-ADSL/ISDN 2B1Q	—	B815
B8046	B88046NL	UK Complex BT SIN-346-ADSL/POTS	relaxed spec*	B810
B8049	B8049NL	ETSI Complex option A-ADSL/POTS	compliant	B826
B8049E	B8049ENL	ETSI Complex option A-ADSL/POTS	compliant/low profile	B882
B8120	—	ANSI-ADSL/POTS	—	B827
B8120A	—	ANSI-ADSL/POTS	w/signature circuit	B827
B8216	—	UK Complex BT SIN-346-ADSL/POTS	w/protections (K20 basic)	B883
B8245	B8245NL	ETSI Ann B - ADSL/POTS/ISDN 4B3T	compliant	B879
B8546	—	UK Complex BT SIN-346-ADSL/POTS	compliant	B884
B8546E	B8546ENL	UK Complex BT SIN-346-ADSL/POTS	compliant/low profile	B707
BX8214	BX8214NL	ANSI-ADSL/POTS	low profile	B878
BX8214V	BX8214VNL	ANSI-ADSL/VDSL2/POTS	VDSL2 compliant/low profile	B886
—	BX8270NL	ITU G992.1-ADSL/POTS + VoIP	CPE for Korea/Asia	B872
—	BX8296NL	ANSI-ADSL/POTS + VoIP	CPE for North America	B871

***1. All** modules are ADSL2+ compatible.*
***2. Contact** Pulse for custom CO splitter or MDF boards.*

SMART™ xDSL, Low Pass, Splitter/Filter Modules

Common pinout 44.70mm x 10mm (1.760" x 0.394")

***CO** - Central Office, **CPE** - Customer Premises Equipment*

EXCELSUS CPE PRODUCTS

Pulse provides high-quality DSL filters, splitters and accessories for broadband Internet access over conventional telephone lines. Customers include DSL end-users, telephone companies, equipment providers, and Internet service providers worldwide. Various splitter and filter types, such as inline, wall-mount, dual-line, tri-jack, dynamic and even alarm panel filters, meet the demanding ETSI, ITU and ANSI specifications.

For year Pulse has been providing innovative DSL splitters, filter transformers, and inductors for customer premises (CPE) and central office (CO) applications worldwide. Now our CPE product line has expanded to offer video-grade splitters for error-free performance on TelcoTV netwroks.

- Error-free and jitter-free performance that maintains high-quality signals in the customer premises
- VDSL2 versions support TelcoTV and IPTV applications
- On-site system testing for xDSL environments, from DSLAM's to customer premises

ADSL and ADSL2+ Micro Filters






Part Number:	CP-V413WT	Z-401TJ11	CP-V501TJ	CP-V503TJ	CP-404TJ45	CP-421SE
Filter Type:	**Distributed DSL Filters**					
Connector	Screw	RJ11			RJ45	Swedish
Region	—	Europe				Sweden
Specification	ANSI T1.413	ETSI 952-1-1	ETSI 952-2-1	ETSI 952-2-3	ETSI 952-1-4	ANSI T1.421
Certification	FCC Part 68, UL 60950	CE				
Surge Protection	ITU K.21					

ADSL and ADSL2+ Micro Filters








Part Number:	Z-250FR	Z-301LS	Z-230PJ	Z-330P2J	Z-330TJA	Z-321P2J	Z-A431PJ31X-A	Z-A431EU
Filter Type:	**Distributed DSL Filters**							
Connector	French	RJ11					RJ31X	Screw
Impedence	600 Ω							
Region	France	North America						UK
Specification	—	—	—	ANSI T1.421				
Certification	CE		CE, FCC Part 68		UL 60950			CE

EXCELSUS CPE PRODUCTS

ADSL2+ and VDSL2 Video Grade Splitters






Part Number:	CP-V413WT	Z-401TJ11	CP-V501TJ	CP-V503TJ	CP-404TJ45	CP-421SE
Filter Type:	**Distributed DSL Filters**					
Connector	Screw	RJ11			RJ45	Swedish
Region	—	Europe				Sweden
Specification	ANSI T1.413	ETSI 952-1-1	ETSI 952-2-1	ETSI 952-2-3	ETSI 952-1-4	ANSI T1.421
Certification	FCC Part 68, UL 60950	CE				
Surge Protection	ITU K.21					

Excelsus MDU Products




Part Number:	KHZ-023-6625FF	Z-D250P2J	Z-D250CWA	CP-V413WT
Filter Type:	**Central/Master Splitters**			
Connector	Punch-down	RJ11		Screw
Impedence	600 Ω			
Mounting Style	66 Punch-down Block	Wall Mount		
Ports	24	1		
Certification	FCC Part 68, UL 60950			

Excelsus HPNA Products


Part Number:	BZ-H175S	BZ-H175S-44
Filter Type:	**In-Line Balun with HPN Band Pass Filter**	
Connector	Twisted Pair (RJ11) to Coaxial	
Impedence	100 Ω to 75 Ω balun	600 Ω
HPN Frequency	12 MHz - 28 MHz	12 MHz - 44 MHz
Certification	FCC Part 68, UL 60950	

TELECOMMUNICATIONS PRODUCTS

Pulse is a leading provider of magnetics for telecom infrastructure equipment, customer premises equipment, audio interface applications, and emerging applications such as VoIP. Our broad portfolio of transformers and integrated transformer modules support T1/E1/ISDN-PRI, T3/E3/STS-1, ISDN-S, ISDN-U, Digital Audio, and DDS.

Package options include surface mount, through hole, single, dual, quad and octal, covering standard and extended temperature ranges. Many parts meet ANSI, ITU, and ETSI requirements, and many are recognized by UL, TUV, Austel and/or CSA. Numerous models incorporate our patented "Interlock Base" construction, ensuring high reliability. The "Telecom IC Cross Reference" starts below.

TELECOM IC CROSS REFERENCES

ISDN S-Interface

IC Manufacturer/ Part Number	Dual SMT TX & RX	Single THT TX & RX	Dual THT TX & RX	Dual SMT Module kVRMS TX & RX	THT Module w/ Choke 1.5 kVRMS TX & RX	Single THT 3 kVrms TX & RX	PCMCIA TX & RX
Alcatel (Microelectronics)							
MTC2072, MTC20172	PE-65795/T5007 LP/ST5069	PE-64995	PE-65495	T5034NL/T5038/ST5201	T5015/T5012	PE-68995/T5035	T5003
MTC20276/77	PE-65795/T5007 LP/ST5069	PE-64995	PE-65495	T5034NL/T5038/ST5201	T5015/T5012	PE-68995/T5035	T5003
AMD							
AM79C30/32	PE-65799	PE-64999	PE-65499	T5034NL/T5038/ST5201	T5015/T5012	PE-68995/T5035	TT5003
Cologne Chip Design							
HFC-SXX	PE-65795/T5007 LP/ST5069	PE-64995	PE-65495	T5034NL/T5038/ST5201	T5015/T5012	PE-68999/T5035	5003
Infineon Technologies (Siemens)							
PEB2080/81/84/85/86	PE-65795/T5007 LP/ST5069	PE-64995	PE-65495	T5034NL/T5038/ST5201	T5015/T5012	PE-68995/T5035	T5003
PSB2115/86	PE-65795/T5007 LP/ST5069	PE-64995	PE-65495	T5034NL/T5038/ST5201	T5015/T5012	PE-68995/T5035	T5003
PSB21381/82/83/84	PE-65793/T5008 LP/ST5048	PE-64993	PE-65493	T5049	T5011	PE-68993	T5002
PEB3018/86,PSB3186	PE-65793/T5008 LP/ST5048	PE-64993	PE-65493	T5049	T5011	PE-68993	T5002
PEB8090/91, PEB8190/91	—	—	—	T5034NL/T5038/ST5201	T5015/T5012	PE-68995/T5035	—
Intel							
29C53	PE-65795/T5010NL LP/ST5069	PE-64995	PE-65495	T5034NL/T5038/ST5201	T5015/T5012	PE-68995/T5035	T5003
Lucent Technologies							
T7234, T7254	PE-65798/T5005 LP	PE-64998	PE-65498	T5037/T5039	T5013	PE-68998	T5004
T7250/56/59	PE-65798/T5005 LP	PE-64998	PE-65498	T5037/T5039	T5013	PE-68998	T5004
T7901/03	PE-65795/T5007 LP/ST5069	PE-64995	PE-65495	T5034NL/T5038/ST5201	T5015/T5012	PE-68995/T5035	T5003
Mitel							
MT8930/31	PE-65795/T5007 LP/ST5069	PE-64995	PE-65495	T5034NL/T5038/ST5201	T5015/T5012	PE-68995/T5035	T5003
Motorola							
MC145474/475	PE-65793/T5008 LP/ST5048	PE-64993	PE-65493	T5049	T5011	PE-68993	T5002
MC145574	PE-65798/T5005 LP	PE-64998	PE-65498	T5037/T5039	T5013	PE-68998	T5004
National Semiconductor							
TP3420/21	PE-65795/T5007 LP/ST5069	PE-64995	PE-65495	T5034NL/T5038/ST5201	T5015/T5012	PE-68995/T5035	T5003
SGS Thomson							
ST5420/21	PE-65795/T5007 LP/ST5069	PE-64995	PE-65495	T5034NL/T5038/ST5201	T5015/T5012	PE-68995/T5035	T5003
Yamaha							
7405B, YTD421	PE-65795/T5007 LP/ST5069	PE-64995	PE-65495	T5034NL/T5038/ST5201	T5015/T5012	PE-68995/T5035	T5003

NOTE: LP = *Low Profile*

SMT - Surface Mount Package **THT** - Through Hole Package

TELECOMMUNICATIONS PRODUCTS

TELECOM IC CROSS REFERENCE

ISDN U-Interface

IC Manufacturer/ IC Part Number	Recommended Transformer					
	1.5 kV		2 kV		2.5 kV	3 kV
	THT	SMT	THT	SMT		
Alcatel (Microelectronics)						
MTC20276	—	T4043	—	—	—	—
AKM						
AK5204	T4022	—	—	—	—	—
Infineon Technologies (Siemens)						
PEB 2091	—	T4031	PE-65575	T4002	—	PE-68669
PEB 8091/8191	—	T4031	PE-65575	T4002	—	PE-68669
PEB 2090/20901	—	T4067	PE-65578	—	—	—
PEB 24902/11	—	T4031	PE-65575	T4002	—	PE-68669
PSB 21910/11	—	T4031	PE-65575	T4002	—	PE-68669
PEB 2491	—	T4032	—	—	—	—
PEB 20901	—	T4067	PE-65578	—	—	—
PEB 2095	—	—	—	—	—	—
PSB 2196	—	—	—	—	—	—
Lucent Technologies						
T7234	PT4084	—	T4008	—	—	—
Motorola						
MC145472	—	—	PE-65579	—	—	—
MC145572	—	T4033	PE-68628[1]	T4001[2]	PE-68668	—
National Semiconductor						
TP3410	—	—	PE-65583	—	PE-68631	—
	—	—	PE-65584	T4004	—	—
Thomson						
SD 5411	—	—	PE-65581	T4006	PE-68631	—

*1. **Small package** for North American applications available. See **T618** data sheet.*

*2. **Suitable** for use in North America only.*

Digital Audio

IC Manufacturer	IC Part Number	Single	
		SMT	THT
Echelon	3120™ 1.25 Mbps	PE-65848	PE-65948
	3150™ 1.25 Mbps	PE-65848	PE-65948
AKM	AK4101	PE-65812	PE-65612
	AK4102	PE-65812	PE-65612
	AK4103	PE-65812	PE-65612
Cirrus L ogic	CS8401/2/3/4	PE-65812	PE-65612
	CS8405/8415	PE-65812	PE-65612
	CS8413/14/27	PE-65812	PE-65612
	CS8406/8416	—	T6074/T6075
Realtek	ALS300+	PE-65812	PE-65612

DDS/Switched 56

IC Manufacturer	IC Part Number	Recommended Transformer Dual SMT
Intel	LXT 441	T7002 T7006

SONET/SDH (STM-1/E4/CMI) DUAL TRANSFORMERS

IC Manufacturer	IC Part Number	Recommended Transformer Single SMT
Intel	LXT6155	ST6200QNL

SMT - Surface Mount Package **THT** - Through Hole Package

Pulse
A TECHNITROL COMPANY

TELECOM IC CROSS REFERENCE

T3/DS3/E3/STS-1

IC Manufacturer/ IC Part Number	12 Xfmrs Ext. Temp.	Octal Xfmrs	6 Xfmrs Ext. Temp.	Dual SMT Ext. Temp.	Single SMT				Single THT		Single THT 3 kVRMS	
					Standard Temp.		Extended Temp.					
	TX & RX	TX & RX	TX & RX	TX & RX	TX	RX	TX	RX	TX	RX	TX	RX
Exar												
XRT75xxx	TX3051	T3048	TX3036	TX3025	PE-65967	PE-65967	T3001	T3001	PE-65966	PE-65966	PE-68629	PE-68629
XRT73L00/2/3/4/6/12	TX3051	T3048	TX3036	TX3025	PE-65967	PE-65967	T3001	T3001	PE-65966	PE-65966	PE-68629	PE-68629
XRT73LC03A/04A,R12	TX3051	T3048	TX3036	TX3025	PE-65967	PE-65967	T3001	T3001	PE-65966	PE-65966	PE-68629	PE-68629
XRT7300/7302	TX3051	T3048	TX3036	TX3025	PE-65967	PE-65967	T3001	T3001	PE-65966	PE-65966	PE-68629	PE-68629
Infineon Technologies												
PEB3452/3460	—	—	—	—	—	—	T3027	T3011/01	—	—	—	—
Maxim (Dallas Semi)												
DS3181/2/3/4	TX3052	T3049	—	—	PE-65968	PE-65968	T3002	T3002	PE-65969	PE-65969	PE-68630	PE-68630
DS3150/1/2/3/4	TX3052	T3049	—	—	PE-65968	PE-65968	T3002	T3002	PE-65969	PE-65969	PE-68630	PE-68630
Mindspeed												
CN28333/332/331	TX3051	T3048	TX3036	TX3025	PE-65967	PE-65967	T3001	T3001	PE-65966	PE-65966	PE-68629	PE-68629
M28335/M28356	TX3051	T3048	TX3036	TX3025	PE-65967	PE-65967	T3001	T3001	PE-65966	PE-65966	PE-68629	PE-68629
M28354/3/2	TX3051	T3048	TX3036	TX3025	PE-65967	PE-65967	T3001	T3001	PE-65966	PE-65966	PE-68629	PE-68629
TDK Semiconductor												
78P2342/43/44	TX3051/TX3052	—	T3020 or TX3026	PE-65968	PE-65967	T3002	T3001	PE-65969	PE-65966	PE-68630	PE-68629	—
78P2241B	TX3051/TX3052	—	T3020 or TX3026	PE-65968	PE-65967	T3002	T3001	PE-65969	PE-65966	PE-68630	PE-68629	—
78P7200/7200L	TX3051/TX3052	—	T3020 or TX3026	PE-65968	PE-65967	T3002	T3001	PE-65969	PE-65966	PE-68630	PE-68629	—
78P7203L/7204L	TX3051/TX3052	—	T3020 or TX3026	PE-65968	PE-65967	T3002	T3001	PE-65969	PE-65966	PE-68630	PE-68629	—
78P2362/2361	TX3051/TX3052	—	T3020 or TX3026	PE-65968	PE-65967	T3002	T3001	PE-65969	PE-65966	PE-68630	PE-68629	—
Transwitch												
MRT TXC-02050	TX3051/TX3052	—	—	T3020 or TX3026	PE-65968	PE-65967	T3002	T3001	PE-65969	PE-65966	PE-68630	PE-68629
ART TXC-02020	TX3051	T3048	—	TX3025	PE-65967	PE-65967	T3001	T3001	PE-65966	PE-65966	PE-68629	PE-68629
ARTE TXC-02021	TX3051	T3048	—	TX3025	PE-65967	PE-65967	T3001	T3001	PE-65966	PE-65966	PE-68629	PE-68629
DART TXC-2030, DS3	TX3051	T3048	—	TX3025	PE-65967	PE-65967	T3001	T3001	PE-65966	PE-65966	PE-68629	PE-68629
DART TXC-2030, E3	TX3051/TX3052	T3049/T3048	—	T3020 or TX3026	PE-65968	PE-65967	T3002	T3001	PE-65969	PE-65966	PE-68630	PE-68629
DS3LIM-SN, TXC20153G	TX3051	T3048	—	TX3025	PE-65967	PE-65967	T3001	T3001	PE-65966	PE-65966	PE-68629	PE-68629
E3LIM TXC-20163	TX3051/TX3052	T3049/T3048	—	T3020 or TX3026	PE-65968	PE-65967	T3002	T3001	PE-65969	PE-65966	PE-68630	PE-68629

TELECOMMUNICATIONS PRODUCTS

Pulse
A TECHNITROL COMPANY

TELECOM IC CROSS REFERENCE

IC CROSS REFERENCE: T1/E1/CEPT/ISDN-Pri FOR SINGLE & MULTIPORT PORT ICs

IC MFR.	IC PART NO./COMMENT		DUAL SMT (BH)		DUAL SMT (AN)		DUAL SMT XFMR/CHOKE	SINGLE THT	
			STD TEMP	EXT TEMP	STD TEMP	EXT TEMP	EXT TEMP	STANDARD TEMP	
			TX & RX	TX & RX	TX & RX	TX & RX	TX & RX	TX	RX
Cirrus Logic	61577	T1 & E1	PE-65861	T1090	PE-68861	PE-68841	T1207	PE-65351	PE-65351
(Crystal)	61304A/5A/535A/574A,/75	T1	PE-65865	T1076	PE-68865	PE-68825	—	PE-65388	PE-65351
	61304A/5A/535A/574A,/75	75 E1	PE-65866NL	—	PE-65866NL	PE-68826	T1212	PE-65389	PE-65351
	61304A/5A/535A/574A,/75	120 E1	PE-65866NL	—	PE-65866NL	PE-68826	—	PE-65389	PE-65351
	61884	T1/E1/J1	PE-65861	TX1188	PE-68861	PE-68841	T1207	PE-65351	PE-65351
	61582, 61583		PE-65870	T1093NL	PE-68874	PE-68874	—	PE-65388	PE-65388
	61310, 61581		PE-68678	T1094	PE-68877	PE-68877	T1212	PE-65351	PE-64936
	61310, 61581	Host	—	T1077	—	—	—	PE-65351	PE-65351
	61880, 61881		PE-65865	T1076	PE-68865	PE-68825	—	PE-65388	PE-65351
	61584/84A	IQ3	PE-65861	T1090	PE-68861	PE-68841	T1207	PE-65351	PE-65351
	61584/82/83/A	IQ5	PE-65870	T1093NL	PE-68874	PE-68874	—	PE-65388	PE-65388
Exar	XRT5683A, XRT59L91		PE-65861	T1090	PE-68861	PE-68841	T1207	PE-65415	PE-65415
	XRT5894/5897/5997		PE-65861	T1090	PE-65861	PE-68841	T1207	PE-65415	PE-65415
	XRTT5793/94		PE-65866NL	—	PE-68866	PE-68826	T1220	PE-65389	PE-64934
	XRT81L27,82L24,82D20		PE-65861	T1090	PE-68861	PE-68841	T1207	PE-65415	PE-65415
	XRT83L30/4/8/314,86L38		PE-68678	T1094	PE-68877	PE-68877	T1212	PE-65415	PE-64934
	XRT83SL30/4/8/314		PE-68678	T1094	PE-68877	PE-68877	T1212	PE-65415	PE-64934
	XRT86L30/32/34/38		PE-68678	T1094	PE-68877	PE-68877	T1212	PE-65415	PE-64934
	T5684,XRT7288,82D20		PE-65862	T1091	PE-68862	PE-68822	—	PE-64937	PE-65351
IDT	82V2048, 82V2058		TX1188	TX1188	PE-68861	PE-68841	T1207	PE-65415	PE-65415
	82V2044/48/48L/54/58		TX1188	TX1188	PE-68861	PE-68841	T1207	PE-65415	PE-65415
	82V2041E/2E/4E/8E		PE-68678	T1094	PE-68877	PE-68877	T1212	PE-65415	PE-64934
	82V2081/2/4/8		PE-68678	T1094	PE-68877	PE-68877	T1212	PE-65415	PE-64934
	82P2281/2/4/8		PE-68678	T1094	PE-68877	PE-68877	T1212	PE-65415	PE-64934
Infineon	PEB 2254/55	E1/T1 & J1	PE-68786	T1095	PE-68887	PE-68887	T1215	—	—
Technologies	PEB 2254/55	E1/T1 & J1	T1023	T1096NL	PE-68887	PE-68887	T1215	—	—
(Siemens)	PEB 22504, 22554, 2256	3.3V	T1144	T1144	—	—	T1219	—	—
	PEB22554	75 E1	T1146	T1146	—	—	—	—	—
Intel	LXT 312/313/315		—	—	—	—	—	PE-64933	PE-64936
	LXT 350, LXT 351, LXT 359	T1,E1	PE-68678	T1094	PE-68877	PE-68877	T1212	PE-65351	PE-64936
	LXT 350, LXT 351		PE-65865	T1076	PE-68865	PE-68825	—	PE-65388	PE-65351
	LXT 350, LXT 351	120 E1	—	—	—	PE-68881	—	PE-65558	PE-65351
	LXT 360/361/362/363	T1,E1	PE-68678	T1094	PE-68877	PE-68877	T1212	PE-65351	PE-64936
	LXT 360/361/362/363		PE-65865	T1076	PE-68865	PE-68825	—	PE-65388	PE-65351
	LXT 360, LXT361	120 E1	—	—	—	PE-68881	—	PE-65558	PE-65351
	LXT 380/381/384/386/388	T1/E1	PE-68678	T1094	PE-68877	PE-68877	T1212	PE-65351	PE-64936
	LXT 380/381/384/386/388	T1/E1	PE-65861	T1090	PE-68861	PE-68841	—	PE-65351	PE-65351
	LXT 3104, LXT 3108		PE-65861	T1090	PE-68861	PE-68841	T1220	PE-64936	PE-64936
	LXT 3104, LXT 3108		TX1099	TX1099	—	—	—	—	—
Maxim	DS2196,2155,2149,21448		PE-68678	T1094	—	—	T1212	PE-65351	PE-64936
(Dallas)	DS2151/2152/2153/2154		PE-65865	T1076	PE-68865	PE-68825	T1213NL	PE-65388	PE-64936
	DS2151/2152/2153/2154		T1136	T1091	PE-68862	PE-68822	—	PE-65586	PE-64936
	DS2148/Q48/Q348/349/Q59	3V	PE-68678	T1094	—	—	T1212	PE-65351	PE-64936
	DS2148/Q48	5V	T1136	T1091	PE-68862	PE-68822	—	PE-65586	PE-64936
	DS21352/Q352, DS21354/Q354		PE-68678	T1094	—	—	T1212	PE-65351	PE-64936
	DS21552/Q552, DS21554/Q554		PE-65865	T1076	PE-68865	PE-68825	T1213NL	PE-65388	PE-64936
	DS21552/Q552, DS21554/Q554		T1136	T1091	PE-68862	PE-68822	—	PE-65586	PE-64936
	DS26502/3		PE-68678	T1094	—	—	T1212	PE-65351	PE-64936
	DS21455/8		PE-68678	T1094	—	—	T1212	PE-65351	PE-64936
	DS26528		PE-68678	T1094	—	—	T1212	PE-65351	PE-64936
Mindspeed	M29378/M29374/M29371		PE-68678	T1094	PE-68877	PE-68877	T1212	PE-65351	PE-64936
	M29368		PE-68678	T1094	PE-68877	PE-68877	T1212	PE-65351	PE-64936
PMC-Sierra	PM4341/6341/4314		PE-65862	T1091	PE-68862	PE-68822	—	PE-64937	PE-65351
	PM4323/4325	OCTLIU	PE-65861	T1090	PE-68861	PE-68841	T1207	PE-65351	PE-65351
	PM4329	HDLIU	—	—	—	—	—	—	—
	PM4358/4359	Tetra/Octal	—	—	—	—	—	—	—
	PM4351/4354	COMET	T1137	TX1287	—	—	T1217	—	—
Zarlink	MT9076, MT9075		T1144	T1144	—	—	T1219	—	—
(Mitel)	MT9074, MT9075		PE-68678	T1094	PE-68877	PE-68877	T1212	PE-65351	PE-64934

Read across ➔

TELECOMMUNICATIONS PRODUCTS

TELECOM IC CROSS REFERENCE

IC CROSS REFERENCE: T1/E1/CEPT/ISDN-Pri FOR SINGLE & MULTIPORT PORT ICs

SINGLE THT		DUAL THT		REINFORCED 3 kVRMS			QUAD SMT		OCTAL SMT	PROTECTION MODULES		
EXTENDED TEMP		STD TEMP	EXT TEMP	STANDARD TEMP		DUAL SMT	STANDARD TEMP		STD TEMP	EXT TEMP	STD TEMP	EXT TEMP
TX	RX	TX	RX	TX	RX	TX & RX	TX	RX	TX & RX	TX &RX	TX & RX	TX & RX
PE-65771	PE-65771	PE-64951	—	PE-65835	PE-65835	—	T1006	T1006	T1065	T1105	—	—
PE-65770	PE-65771	PE-65565	PE-65567	PE-65838	PE-65835	—	—	T1006	—	—	—	—
PE-68664	PE-65771	PE-65566	PE-65568	PE-65839	PE-65835	—	—	T1006	T1068	T1108	—	—
PE-68664	PE-65771	PE-65566	PE-65568	PE-65839	PE-65835	—	—	T1006	—	T1111NL	—	—
PE-65771	PE-65771	PE-64951	—	PE-65838	PE-65835	—	T1006	T1006	T1073	T1113NL	—	—
PE-65770	PE-65770	—	—	PE-65838	PE-65838	—	—	—	T1064NL	T1104	—	—
PE-65771	—	PE-64951	PE-65568	PE-65835	PE-65835	T1031	T1006	T1006	T1068	T1108	—	—
PE-65771	PE-65771	PE-64951	—	PE-65835	PE-65835	T1081	—	—	—	—	—	—
PE-65770	PE-65771	PE-65565	PE-65567	PE-65838	PE-65835	—	—	T1006	—	—	—	—
PE-65771	PE-65771	PE-64951	—	PE-65835	PE-65835	—	T1006	T1006	T1065	T1105	—	—
PE-65770	PE-65770	—	—	PE-65838	PE-65838	—	—	—	T1064NL	T1104	—	—
PE-65771	PE-65771	PE-64951	—	PE-65835	PE-65835	—	T1006	T1006	T1065	T1105	—	—
PE-65771	PE-65771	PE-64951	—	PE-65835	PE-65835	—	T1006	T1006	T1065	T1105	—	—
PE-68664	PE-65778	PE-65566	PE-65568	PE-65839	PE-65834	—	—	—	—	T1111NL	—	—
PE-65771	PE-65771	PE-64951	—	PE-65835	PE-65835	—	T1006	T1006	T1065	T1105	—	—
PE-65771	PE-65778	PE-64951	—	PE-65835	PE-65834	T1031	T1006	T1006	T1068	T1108	—	—
PE-65771	PE-65778	PE-64951	—	PE-65835	PE-65834	T1031	T1006	T1006	T1068	T1108	—	—
PE-65771	PE-65778	PE-64951	—	PE-65835	PE-65834	T1031	T1006	T1006	T1068	T1108	—	—
PE-65340	PE-65771	PE-64952	PE-65774	PE-65837	PE-65835	—	—	—	T1067	T1107	—	—
PE-65771	PE-65771	PE-64951	—	PE-65835	PE-65835	—	T1006	T1006	T1124	T1114	—	—
PE-65771	PE-65771	PE-64951	—	PE-65835	PE-65835	—	T1006	T1006	T1124	T1114	—	TX9023
PE-65771	PE-65778	PE-64951	—	PE-65835	PE-65834	T1031	T1006	T1006	T1068	T1108	—	TX9026NL
PE-65771	PE-65778	PE-64951	—	PE-65835	PE-65834	T1031	T1006	T1006	T1068	T1108	—	TX9026NL
PE-65771	PE-65778	PE-64951	—	PE-65835	PE-65834	T1031	T1006	T1006	T1068	T1108	—	TX9026NL
—	—	—	—	—	PE-68788	PE-68788	—	—	—	—	—	—
—	—	—	—	—	PE-68788	PE-68788	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	T1142	T1231	—	TX9031
—	—	—	—	—	—	—	—	—	—	—	—	—
PE-68600	PE-65778	—	PE-64950	PE-65836	PE-65834	—	—	—	—	—	—	—
PE-65771	PE-65778	PE-64954	—	PE-65835	PE-65834	T1031	T1006	T1006	T1068	T1108	—	—
PE-65770	PE-65771	PE-65565	PE-65567	PE-65838	PE-65835	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—
PE-65771	PE-65778	PE-64954	—	PE-65835	PE-65834	T1031	T1006	T1006	T1068	T1108	—	—
PE-65770	PE-65771	PE-65565	PE-65567	PE-65838	PE-65835	—	—	—	—	—	—	—
—	—	PE-65565	—	—	—	—	—	—	—	—	—	—
PE-65771	PE-65778	PE-64954	—	PE-65835	PE-65834	T1031	T1006	T1006	T1068	T1108	T9030	T9030
PE-65771	PE-65771	PE-64951	—	PE-65835	PE-65835	—	T1006	T1006	T1124	T1114	T9030	T9030
PE-65778	PE-65778	PE-64951	—	PE-65835	PE-65835	T1030	T1006	T1006	T1068	T1108	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—
PE-65771	PE-65778	PE-64951	PE-65568	PE-65838	PE-65838	T1031	T1006	T1006	T1068	T1108	—	—
PE-65770	PE-65778	PE-65565	PE-65567	PE-65838	PE-65834	—	—	T1006	—	—	—	—
PE-65340	PE-65778	PE-64952	PE-65774	PE-65832	PE-65834	T1038	T1001	T1001	—	—	—	—
PE-65771	PE-65778	PE-64951	PE-65568	PE-65838	PE-65838	T1031	T1006	T1006	T1068	T1108	—	—
PE-65340	PE-65778	PE-64952	PE-65774	PE-65832	PE-65834	T1038	T1001	T1001	—	—	—	—
PE-65771	PE-65778	PE-64951	PE-65568	PE-65838	PE-65838	T1031	T1006	T1006	T1068	T1108	—	—
PE-65770	PE-65778	PE-65565	PE-65567	PE-65838	PE-65834	—	—	T1006	—	—	—	—
PE-65340	PE-65778	PE-64952	PE-65774	PE-65832	PE-65834	T1038	T1001	T1001	—	—	—	—
PE-65771	PE-65778	PE-64951	PE-65568	PE-65838	PE-65838	T1031	T1006	T1006	T1068	T1108	—	—
PE-65771	PE-65778	PE-64951	PE-65568	PE-65838	PE-65838	T1031	T1006	T1006	T1068	T1108	—	—
PE-65771	PE-65778	PE-64951	PE-65568	PE-65838	PE-65838	T1031	T1006	T1006	T1068	T1108	—	—
PE-65771	PE-65778	PE-64951	PE-65568	PE-65835	PE-65834	T1031	T1006	T1006	T1068	T1108		TX9026NL
PE-65771	PE-65778	PE-64951	PE-65568	PE-65835	PE-65834	T1031	T1006	T1006	T1068	T1108		TX9026NL
PE-65340	PE-65771	PE-64952	PE-65774	PE-65832	PE-65835	—	—	—	T1067	T1107	—	—
PE-65771	PE-65771	PE-64951	—	PE-65835	PE-65835	—	T1006	T1006	T1073	T1113NL	—	TX9023
—	—	—	—	—	—	—	—	—	—	TX1341/T1113NL	—	TX9027
—	—	—	—	—	—	—	—	—	—	TX1341/T1113NL	—	TX9027
—	—	—	—	—	—	—	—	—	—	TX1299NL	T9021	TX9020NL
—	—	—	—	—	—	—	—	—	T1142	T1231	—	—
PE-65771	PE-65778	PE-64954	PE-65568	PE-65835	PE-65834	T1031	—	—	T1068	T1108	—	—

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TELECOMMUNICATIONS PRODUCTS

SINGLE, DUAL TRANSFORMERS

T1/E1/CEPT/ISDN-Pri—SINGLE, DUAL

Part Number	Turns Ratio	Package L/W/H (in.)*	Data Sheet
SINGLE TRANSFORMERS			
1.5 kV Isolation, Standard Temperature Range, THT			
PE-64931NL	1:1:1 (1:2CS)	.350/.500/.250	T608
PE-64933NL	1CT:3CT	.350/.500/.250	T608
PE-64934NL	1:1	.350/.500/.250	T608
PE-64936NL	1CT:1	.350/.500/.250	T608
PE-64937NL	1:1.36	.350/.500/.250	T608
PE-64940NL	1:1:1.58	.350/.500/.250	T608
PE-64941NL	1:1:2	.350/.500/.250	T608
PE-64942NL	1:1:2.62	.350/.500/.250	T608
PE-64943NL	1CT:2CT	.350/.500/.250	T608
PE-65351NL	1:2CT	.350/.500/.250	T608
PE-65363NL	1:4CT	.350/.500/.250	T608
PE-65379NL	1:1.14CT	.350/.500/.250	T608
PE-65388NL	1:1.15CT	.350/.500/.250	T608
PE-65389NL	1:1:1.266	.350/.500/.250	T608
PE-65415NL	1CT:2CT	.350/.500/.250	T608
PE-65558NL	1:2.3CT	.350/.500/.250	T608
PE-65586NL	1:1.36CT	.350/.500/.250	T608
PE-65755NL	1CT:1CT	.350/.500/.250	T608
PE-68644NL	1CT:1	.350/.500/.250	T608
PE-68645NL	1:1.36CT	.350/.500/.250	T608
T1054NL	1:1.5CT	.350/.500/.250	T608
T1249NL	1:1.26CT	.350/.500/.250	T608
1.5 kV Isolation, Extended Temperature Range, THT			
PE-68664NL	1:1/1.26	.350/.500/.250	T608
PE-65340NL	1:1.36	.350/.500/.250	T608
PE-65770NL	1:1.15CT	.350/.500/.250	T608
PE-65771NL	1CT:2CT	.350/.500/.250	T608
PE-65778NL	1CT:1CT	.350/.500/.250	T608
PE-68600NL	1CT:3CT	.350/.500/.250	T608
TX1252NL	1CT:1	.350/.500/.250	T608
T1229NL	1:1.583CT	.350/.500/.250	T659
1.5 kV Isolation, Extended Temperature Range, SMT			
TX1281	1CT:1	.220/.305/.200	T669
TX1282	1.14CT:1	.220/.305/.200	T669
TX1283	1.35CT:1	.220/.305/.200	T669
TX1284	1.26CT:1	.220/.305/.200	T669
TX1491	1CT:1	.220/.305/.200	T669
TX1492	2CT:1	.220/.305/.200	T669
TX1314	1:1/1.26	.300/.390/.250	T678
TX1315	1CT:1CT	.300/.390/.250	T678
TX1320	1CT:1.36CT	.300/.390/.250	T678
3.0 kV – Reinforced Insulation per IEC 950, THT			
PE-65830NL	1:1:1.58	.558/.558/.400	T608
PE-65831NL	1:1:2	.558/.558/.400	T608
PE-65832NL	1:1.36CT	.558/.558/.400	T608
PE-65833NL	1CT:2CT	.558/.558/.400	T608
PE-65834NL	1:1	.558/.558/.400	T608
PE-65835NL	1CT:2CT	.558/.558/.400	T608
PE-65836NL	1CT:3CT:1	.558/.558/.400	T608
PE-65837NL	1:1.08:1.36	.558/.558/.400	T608
PE-65838NL	1:1.14	.558/.558/.400	T608
PE-65839NL	1:1:1.266	.558/.558/.400	T608
PE-68646NL	1:1.58:2	.558/.558/.400	T608
PE-68788NL	1CT:1.41CT	.558/.558/.400	T608

Part Number	Turns Ratio	Package L/W/H (in.)*	Data Sheet
DUAL TRANSFORMERS			
1.5 kV Isolation, Extended Temperature Range, THT			
PE-68618NL	1CT:1CT & 1CT:3CT:0.25	1.000/.390/.290	T608
PE-64950NL	1CT:1CT & 1CT:3CT:1	1.000/.390/.290	T608
PE-65567NL	1:1.15CT & 1:2CT	.800/.390/.290	T608
PE-65568NL	1:1:1.266 & 1:2CT	.800/.390/.290	T608
PE-65774NL	1CT:2CT & 1:1.36CT	.800/.390/.290	T608
1.5 kV Isolation, Standard Temperature Range, THT			
PE-64951NL	1:2CT & 1:2CT	.800/.390/.250	T608
PE-64952NL	1:2CT & 1:1.36CT	.800/.390/.250	T608
PE-64953NL	1:2CT & 1:2CT	.800/.390/.250	T608
PE-64954NL	1CT:2CT & 1:1	.800/.390/.250	T608
PE-64955NL	1.58:2CT & 1.58:1	.800/.390/.250	T608
PE-64956NL	2:2CT & 2:1	.800/.390/.250	T608
PE-64957NL	2.62:2CT & 2.62:1	.800/.390/.250	T608
PE-65565NL	1:1.15CT & 1:2CT	.800/.390/.290	T608
PE-65566NL	1:1:1.266 & 1:2CT	.800/.390/.290	T608
1.5 kV Isolation, Standard Temperature Range, BH Package, SMT			
T1136NL	1CT:1CT & 1CT:1.36CT	.505/.375/.245	T608
T1190NL	1CT:1.36CT & 1CT:1CT	.505/.375/.245	T654
PE-65861NL	1CT:2CT & 1CT:2CT	.505/.375/.245	T608
PE-65862NL	1CT:2CT & 1:1.36CT	.505/.375/.245	T608
PE-65865NL	1:1.15CT & 1CT:2CT	.505/.375/.245	T608
PE-65866NL	1:1/1.26 & 1CT:2CT	.505/.375/.245	T608
PE-65870NL	1CT:1.15CT & 1CT:1.15CT	.505/.375/.245	T608
PE-68678NL	1CT:1CT & 1CT:2CT	.505/.375/.245	T608
PE-68786NL	1CT:1.41CT & 1CT:1.41CT	.505/.375/.245	T608
T1023NL	1CT:1.41CT & 1CT:1.41CT	.505/.375/.245	T608
T1137NL	1CT:2.42CT & 1CT: 2.42CT	.505/.375/.245	T651
T1021NL	2CT:1/1.26 & 2CT:1/1.26	.505/.375/.245	T637
T1090NL	1CT:2CT & 1CT:2CT	.505/.375/.245	T608
T1091NL	1CT:2CT & 1:1.36CT	.505/.375/.245	T608
T1076NL	1:1.15CT & 1CT:2CT	.505/.375/.245	T608
T1093NL	1CT:1.15CT & 1CT:1.15CT	.505/.375/.245	T608
T1077NL	1CT:1CT & 1CT:1.5CT	.505/.375/.245	T608
TT1094NL	1CT:1CT & 1CT:2CT	.505/.375/.245	T608
T1144NL	1CT:1CT & 1CT:2.4CT	.505/.375/.245	T608
T1095NL	1CT:1.41CT & 1CT:1.41CT	.505/.375/.245	T608
T1096NL	1CT:1.41CT & 1CT:1.41CT	.505/.375/.245	T608
T1097NL	1CT:1CT & 1CT:1.67CT	.505/.375/.245	T608
T1146NL	1:2/2.4 & 1:0.79/1	.505/.375/.245	T608
TX1089NL	1CT:1CT & 1CT:1CT	.505/.375/.245	T608
TX1099NL	1CT:1:0.8 & 1CT:1:0.8	.505/.375/.245	T608
TX1287NL	1CT:2.42CT & 1CT: 2.42CT	.505/.375/.245	T608
TX1186NL	1CT:1.58:2 & 1:1.65:2	.505/.375/.245	T608
TX1188NL	1CT:2CT & 1CT:2CT	.505/.375/.245	T608
TX1467NL	1CT:1:1 & 1CT:1:1	.505/.375/.245	T608
1.5 kV Isolation, Standard Temperature Range, ANTE Package, SMT			
PE-68861NL	1CT:2CT & 1CT:2CT	.675/.600/.340	T608
PE-68862NL	1CT:2CT & 1:1.36CT	.675/.600/.340	T608
PE-68864NL	1CT:2CT & 1:1	.675/.600/.340	T608
PE-68865NL	1:1.15CT & 1CT:2CT	.675/.600/.340	T608
PE-68866NL	1:1/1.26 & 1:2CT	.675/.600/.340	T608
PE-68836NL	1:1/1.26 & 1:1/1.26	.675/.600/.340	T608

***L/W/H** is measured on surface mount parts tip to tip (height includes wash area).

SMT - Surface Mount Package **THT -** Through Hole Package

TELECOMMUNICATIONS PRODUCTS

TRANSFORMERS DUAL, QUAD, OCTAL, TRANSFORMER/CHOKE INTERFACE MODULES

T1/E1/CEPT/ISDN-Pri—DUAL, QUAD, OCTAL

Part Number	Turns Ratio	Package L/W/H (in.)*	Data Sheet
DUAL TRANSFORMERS *(continued)*			
1.5 kV Isolation, Extended Temperature Range, ANTE Package, SMT			
PE-68822NL	1CT:2CT & 1:1.36CT	.675/.600/.340	T608
PE-68825NL	1:1.15CT & 1CT:2CT	.675/.600/.340	T608
PE-68826NL	1:1/1.26 & 1:2CT	.675/.600/.340	T608
PE-68827NL	1:1CT & 2:1	.675/.600/.340	T608
PE-68828NL	1CT:1CT & 1CT:1CT	.675/.600/.340	T608
PE-68841NL	1CT:2CT & 1CT:2CT	.675/.600/.340	T608
PE-68874NL	1CT:1.15CT & 1CT:1.15CT	.675/.600/.340	T608
PE-68877NL	1CT:1CT & 1CT:2CT	.675/.600/.340	T608
PE-68881NL	1CT:2.3CT & 1CT:2CT	.675/.600/.340	T608
PE-68882NL	1:1.15CT: & 1CT:1CT	.675/.600/.340	T608
PE-68884NL	1CT:1.36CT & 1CT:1.36CT	.675/.600/.340	T608
PE-68887NL	1CT:1.41CT & 1CT:1.41CT	.675/.600/.340	T608
3.0 kV Isolation – Standard Temperature Range, SMT			
T1030	1CT:1CT & 1CT:1CT	.950/.745/.395	T617
T1081	1CT:1CT & 1CT:1.5CT	.950/.745/.395	T617
T1031	1CT:1CT & 1CT:2CT	.950/.745/.395	T617
T1035	1CS:1CS & 1CS:1.36CS	.950/.745/.395	T617
T1038	1CT:1CT & 1CT:1.36CT	.950/.745/.395	T617
DUAL TRANSFORMER/CHOKE INTERFACE MODULES			
1.5 kV Isolation, Extended Temperature Range, SMT			
T1207NL	1CT:2CT & 1CT:2CT	.675/.600/.340	T660
T1212NL	1CT:1CT & 1CT:2CT	.675/.600/.340	T660
1213NL	1CT:1.15CT & 1CT:1CT	.675/.600/.340	T660
T1215NL	1CT:1.41CT & 1CT:1.41CT	.675/.600/.340	T660
T1217NL	1CT:2.42CT & 1CT:2.42CT	.675/.600/.340	T660
T1219NL	1CT:2.4CT & 1CT:1CT	.675/.600/.340	T660
T1220NL	1CT:1CT & 1CT:1CT	.675/.600/.340	T660
QUAD TRANSFORMER/CHOKE INTERFACE MODULES			
1.5 kV Isolation, Extended Temperature Range, SMT			
T1176NL	1CT:2.4CT & 1CT:1CT	.690/.630/.225	T662
TX1192NL	1CT:2.42CT & 1CT:2.42CT	.690/.630/.225	T662
TX1193NL	1CT:2CT & 1CT:1CT	.690/.630/.225	T662
QUAD TRANSFORMERS (four transformers per package)			
1.5 kV Isolation, Extended Temperature Range, SMT			
TX1321NL	1CT:2.4CT & 1CT:1CT	.690/.630/.225	T662
TX1322NL	1CT:2.42CT & 1CT:2.42CT	.690/.630/.225	T662
TX1323NL	1CT:2CT & 1CT:1CT	.690/.630/.225	T662
QUAD TRANSFORMERS (four transformers per package)			
1.5 kV Isolation, Standard Temperature Range, SMT			
T1001NL	1:1 & 1:1.36	1.000/.425/.295	T615
T1006NL	1:1 & 1:2CT	1.000/.425/.295	T615
T1007NL	1:1.15	1.000/.425/.295	T615
T1009NL	1:1 & 1:1.265	1.000/.425/.295	T615

Part Number	Turns Ratio TX	Turns Ratio RX	Package L/W/H (in.)*	Data Sheet
OCTAL TRANSFORMERS (eight transformers per package)				
1.5 kV Isolation, Standard Temperature Range, SMT				
T1063NL	1:1.36	1:1.36CT	1.125/.640/.230	T622
T1064NL	1:1.14	1:1.14CT	1.125/.640/.230	T622
T1065NL	1:2CT	1:2CT	1.125/.640/.230	T622
T1066NL	1:2	1:2CT	1.125/.640/.230	T622
T1067NL	1:1.36CT	1:2CT	1.125/.640/.230	T622
T1068NL	1:2CT	1:1CT	1.125/.640/.230	T622
T1073NL	1:2	1:2	1.125/.640/.230	T622
T1124NL	1:2CT	1CT:2	1.125/.640/.230	T622

Part Number	Turns Ratio TX	Turns Ratio RX	Package L/W/H (in.)*	Data Sheet
OCTAL TRANSFORMERS (eight transformers per package) *(continued)*				
1.5 kV Isolation, Standard Temperature Range, SMT				
T1129NL	1:1.36CT	1:1CT	1.125/.640/.230	T622
T1142NL	1:2.4	1:1	1.125/.640/.230	T622
T1145NL	1:2/2.4	1:0.79/1	1.125/.640/.230	T622
T1180NL	1:2.42	1:2.42	1.125/.640/.230	T622
T1181NL	1:2.1CT	1:2.1CT	1.125/.640/.230	T622
1.5 kV Isolation, Extended Temperature Range, SMT				
T1104NL	1:1.14	1:1.14CT	1.125/.640/.230	T622
T1105NL	1:2CT	1:2CT	1.125/.640/.230	T622
T1106NL	1:2	1:2CT	1.125/.640/.230	T622
T1107NL	1:1.36CT	1:2CT	1.125/.640/.230	T622
T1108NL	1:2CT	1:1CT	1.125/.640/.230	T622
T1111NL	1:1/1.26	1:2CT	1.125/.640/.230	T622
1.5 kV Isolation, Standard Temperature Range, SMT				
T1113NL	1:2	1:2	1.125/.640/.230	T622
T1114NL	1:2CT	1CT:2	1.125/.640/.230	T622
T1231NL	1:2.4	1:1	1.125/.640/.230	T622
TX1262NL	1:2	1:2	1.125/.640/.230	T622
TX1264NL	1:2CT	1CT:1.41	1.125/.640/.230	T622
TX1266NL	1:2	1:1	1.125/.640/.230	T622
TX1294NL	1:1CT	1:1CT	1.125/.640/.230	T622
TX1295NL	1:1.26CT	1:1.26CT	1.125/.640/.230	T622
TX1299NL	1:2.42	1:2.42	1.125/.640/.230	T622
TX1341NL	1:2	1:2	1.000/.425/.295	T671
TX1342NL	1:1.15	1:1.15	1.000/.425/.295	T671
T1343NL	1:1.266	1:1.266	1.000/.425/.295	T671
TX1344NL	1:1	1:2	1.000/.425/.295	T671
TX1470NL	1:1.41	1:1.41	1.000/.425/.295	T671
TX1472NL	1: 2.4	1:1	1.000/.425/.295	T671
TX1473NL	1:2	1:1	1.000/.425/.295	T671
TX1474NL	1:2.42	1:2.42	1.000/.425/.295	T671
TX1471NL	1:1	1:1	1.000/.425/.295	T671
OCTAL TRANSFORMER/CHOKE INTERFACE MODULES				
1.5 kV Isolation, Extended Temperature Range, SMT				
TX1263NL	1:2	1:2	1.125/.640/.285	T682
TX1267NL	1:2	1:1	1.125/.640/.285	T682

SONET/SDH (STM-1/E4/CMI)

Part Number	Turns Ratio	Primary Inductance OCL (µH MIN)	Package L/W/H (in.)[1]	Data Sheet
DUAL, SMT				
ST6200QNL	1CT:1CT	28	.455/.375/.225	T692

***1. SOIC** = 50 mil pitch leads. Length and width are MAX package dimensions. Height dimensions include the wash area.*

***L/W/H** is measured on surface mount parts tip to tip (height includes wash area).

SMT - Surface Mount Package **THT -** Through Hole Package

TELECOMMUNICATIONS PRODUCTS

TRANSFORMERS, TRANSFORMER MODULES - SINGLE, DUAL, TRIPLE, QUAD, SIX PORT, OCTAL

T1/E1 Protection Modules

Part Number	Turns Ratio TX	Turns Ratio RX	Primary Inductance OCL (µH MIN)	Package L/W/H (in.)*	Data Sheet
OCTAL TRANSFORMER MODULES, 1.5 kV Isolation					
Extended Temperature Range, Line Side Protection, SMT					
T9030	1CT:2	1CT:1	1.2	1.255.852.305	T656
TX9031	1CT:2.4	1:1CT	1.2	1.255.852.305	T670
TX9032	1CT:1	1:1CT	1.2	1.255.852.305	T680
TX9033	1CT:1.14	1.14:1CT	1.2	1.255.852.305	T680
IC Side Protection, SMT					
T9021	1:2.42	1:2.42	.6	1.125.640.285	T657
TX9020NL	1:2.42	1:2.42	1.2	1.125.640.285	T677
TX9023	1:2	1:2	1.2	1.125.640.285	T674
TX9025	1:2CT	1:2	1.2	1.125.640.285	T686
TX9027	1:2	1:2	1.2	1.125.640.285	T691

T3/DS3/E3/STS-1—Single, Dual, Triple, Quad, Six Port

Part Number	Turns Ratio	Primary Inductance OCL (µH MIN)	Package L/W/H (in.)*	Data Sheet
SINGLE TRANSFORMERS				
THT				
PE-68629NL	1:1	40	.350/.500/.250	T606
PE-65966NL	1:1	40	.300/.280/.250	T606
PE-65663NL	1:1	40	.300/.400/.250	T606
PE-65969NL	1:2CT	19	.300/.280/.250	T606
PE-65664NL	1:2CT	35	.300/.400/.250	T606
PE-68630NL	1:2CT	19	.350/.500/.250	T606
PE-65779NL	1:4CT	200	.300/.400/.250	T606
PE-65856NL	1:1.73CT	50	.300/.280/.250	T606
SMT				
PE-65967	1:1	40	.300/.390/.250	T606
PE-65662	1:1	45	.300/.420/.200	T606
PE-65968	1:2CT	19	.300/.390/.250	T606
SMT, Extended Temperature Range				
T3001NL	1:1	100	.300/.390/.250	T619
T3002NL	1:2CT	40	.300/.390/.250	T619
T3011NL	1:1	100	.300/.390/.250	T619
T3012NL	1:2CT	40	.300/.390/.250	T619
T3027NL	1CT:1CT	40	.300/.390/.250	T619
T3029NL	1:1.15CT	40	.300/.390/.250	T619
DUAL TRANSFORMERS,				
SMT, Extended Temperature Range				
T3020NL	1:2CT & 1:1	40 & 100	.505/.375/.245	T655
T3021NL	1:2CT & 1:2CT	100 & 100	.505/.375/.245	T655
T3023NL	1:1 & 1:1	40 & 40	.505/.375/.245	T655
TX3025NL	1CT:1CT & 1:1	100 & 100	.505/.375/.245	T655
TX3026NL	1:2CT & 1:1	100 & 100	.505/.375/.245	T655
SIX TRANSFORMERS (Triple Port)				
SMT, Extended Temperature Range				
TX3036	1:1	100	.537/.510/.226	T672
OCTAL TRANSFORMERS (Quad Port)				
SMT				
TX3047NL	1:1	40	1.000/.425/.295	T663
T3048NL	1:1	40	1.000/.425/.295	T663
T3049NL	1:2	19	1.000/.425/.295	T663
TWELVE TRANSFORMERS (Six Port)				
SMT, Extended Temperature Range				
TX3051NL	1:1	60	1.120/.630/.280	T668
TX3052NL	1:2	40	1.120/.630/.280	T668

***L/W/H** is measured on surface mount parts tip to tip (height includes wash area).

SMT - Surface Mount Package **THT -** Through Hole Package

ISDN U-Interface [1]

Part Number 1.5-2.0 kV	Part Number 2.5 kV	Part Number 3 kV	Turns Ratio	OCL Line Side (mH M IN)	Package L/W/H (in.)*	Data Sheet
THT						
PE-65575	—	PE-68669	1.65:1	13.0–18.0	1.100/.750/.430	T603
PE-65578	—	—	1.32:1	7.0–8.3	1.100/.750/.430	T603
PE-65579	—	—	2.00:1	25.5–28.5	1.100/.950/.450	T603
PE-65581	—	—	1.50:1	14.2–15.8	1.100/.950/.450	T603
PE-65583	PE-68631	—	1.50:1	25.6–28.4	1.100/.950/.450	T603
PE-65584	PE-68681	—	1.50:1	25.6–28.4	1.100/.950/.450	T603
PE-68628	PE-68668	—	1.25:1	26.5–29.5	1.100/.950/.450	T603
T4008	—	—	1.50:1	73.0–98.0	1.050/.900/1.050	T616
T4022	—	—	1.6CS:1CT	8.41–2.60	.760/.870/.450	T625

Part Number	Turns Ratio	Primary Inductance OCL (mH MIN)	Package L/W/H (in.)*	Data Sheet
SMT				
T4001	1.25:1	26.5–30.0	.760/.870/.500	T 614
T4002	1.65:1	15.0–18.0	.760/.870/.500	T614
T4004	1.50:1	25.6–28.4	.760/.870/.500	T614
T4006	1.50:1	14.2–15.8	.760/.870/.500	T614
T4031	1.65CS:1CT	13.0–18.0	.695/.530/.485	T624
T4032	1.25CS:1CT	11.9–16.1	.695/.530/.485	T624
T4033	1.25CS:1CT	26.6–29.4	.695/.530/.485	T624
T4043	2CS:1CS	13.5–16.5	.695/.530/.485	T624
T4067	1.32CS:1	7.5–8.3	.695/.530/.485	T624

*1. **Echo** Cancellation Hybrid unit **PE-3005** is also available.*

ISDN S-Interface — Single, Dual

SINGLE TRANSFORMERS, 2.0 kV ISOLATION				
THT				
PE-64993	1:1	22	.560/.560/.400	T604
PE-64994	1:1.8	22	.560/.560/.400	T604
PE-64995	1:2	22	.560/.560/.400	T604
PE-64996	1:2.5	22	.560/.560/.400	T604
PE-64998	1:2.5	22	.560/.560/.400	T604
PE-64999	1:2	22	.560/.560/.400	T604
DUAL TRANSFORMERS, 2.0 kV ISOLATION				
THT				
PE-65492	1:1 & 1:2	22	.920/.560/.400	T604
PE-65493	1:1 & 1:1	22	.920/.560/.400	T604
PE-65495	1:2 & 1:2	22	.920/.560/.400	T604
PE-65498	1:2.5 & 1:2.5	22	.920/.560/.400	T604
PE-65499	1:2 & 1:2	22	.920/.560/.400	T604
SMT				
PE-65792	1:1 & 1:2	22	.950/.720/.390	T604
PE-65793	1:1 & 1:1	22	.950/.720/.390	T604
PE-65795	1:2 & 1:2	22	.950/.720/.390	T604
PE-65798	1:2.5 & 1:2.5	22	.950/.720/.390	T604
PE-65799	1:2 & 1:2	22	.950/.720/.390	T604
ST5048	1CS:2.5CS & 1CS:2.5CS	22	.987/.575/.340	ST5048
ST5069	1CS:2CS & 1CS:2CS	22	.987/.575/.340	ST5069
Low Profile, SMT				
T5005NL	1:2.5 & 1:2.5	22	.950/.720/.295	T613
T5007NL	1:2 & 1:2	22	.950/.720/.295	T613
T5008NL	1:1 & 1:1	22	.950/.720/.295	T613
T5010NL	1:1.8 & 1:1.8	22	.950/.720/.295	T613
SINGLE TRANFORMERS, 3.0 kV ISOLATION				
Reinforced Insulation per IEC 950				
THT				
PE-68992	1:2CT	22	.750/.750/.500	T604
PE-68993	1:1	22	.750/.750/.500	T604
PE-68995	1:2	22	.750/.750/.500	T604
PE-68998	1:2.5	22	.750/.750/.500	T604
PE-68999	1:2	22	.750/.750/.500	T604
T5035	1CT:2CT	30	.578/.648/.565	T636

TELECOMMUNICATIONS PRODUCTS

TRANSFORMERS, TRANSFORMER/CHOKE MODULES

ISDN S-Interface Modules, Transformer and Choke

Part Number	Turns Ratio	Pri. Inductance OCL (mH MIN) Transformer	OCL (mH MIN) Choke	Package L/W/H (in.)*	Data Sheet
THT					
T5011	1CT:1CT & 1CT:1CT	30	4.70	1.150/.420/.590	T632
T5012	1CT:2CT & 1CT:2CT	30	4.70	1.150/.420/.590	T632
T5013	1CT:2.5CT & 1CT:2.5CT	30	4.70	1.150/.420/.590	T632
T5015	1:2CT & 1:2CT	30	4.70	1.150/.420/.590	T632
SMT					
T5034NL	1CT:2CT & 1CT:2CT	30	4.70	1.170/.660/.320	T635
T5037	1CT:2.5CT & 1CT:2.5CT	30	4.70	1.170/.660/.320	T635
T5038	1CT:2CT & 1CT:2CT	30	0.47	1.170/.660/.320	T635
T5039	1CT:2.5CT & 1CT:2.5CT	30	0.47	1.170/.660/.320	T635
ST5201	1CS:2CS & 1CS:2CS	22	0.42	.987/.575/.340	ST5201
T5049	1CT:1CT & 1CT:1CT	30	4.70	1.170/.660/.320	T635

Digital Audio, Single

Part Number	Turns Ratio	Primary Inductance OCL (mH MIN)	Package L/W/H (in.)*	Data Sheet
THT				
T6074NL [1]	1:1	.225	.350/.500/.250	T688
T6075NL	1:1	.225	.350/.500/.250	T688
PE-65948NL	1CT:1CT	3.5 - 6.5	.350/.500/.250	T602
PE-65612NL	1:1	2.5	.350/.500/.250	T601
SMT				
PE-65848NL	1CS:1CS	3.5 - 6.5	.480/.600/.340	T602
PE-65812NL	1:1	2.5	.480/.600/.340	T601

***1. With** shield*

DDS/Switched 56

Part Number	Turns Ratio	Pri. Inductance OCL (mH MIN)	Package L/W/H (in.)*	Data Sheet
SMT				
T7002	1CT:1CT	40	.530/.695/.485	T629
T7006	1CT:1CT	40	.410/.525/.365	T629

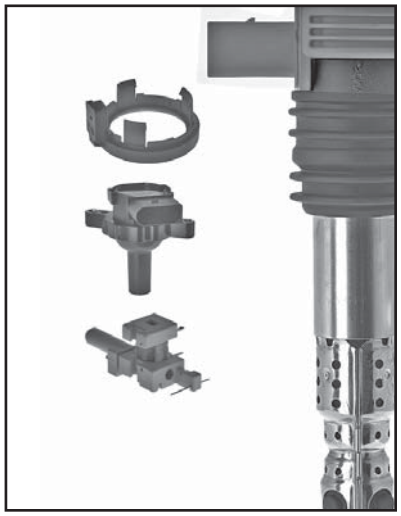
Audio/Voice Band

Part Number	Turns Ratio	Isolation Voltage	Package L/W/H (in.)*	Data Sheet
SMT				
T6003	1:1	1500	.530/.695/.485	T628

***L/W/H** is measured on surface mount parts tip to tip (height includes wash area).

SMT - Surface Mount Package **THT -** Through Hole Package

AUTOMOTIVE PRODUCTS

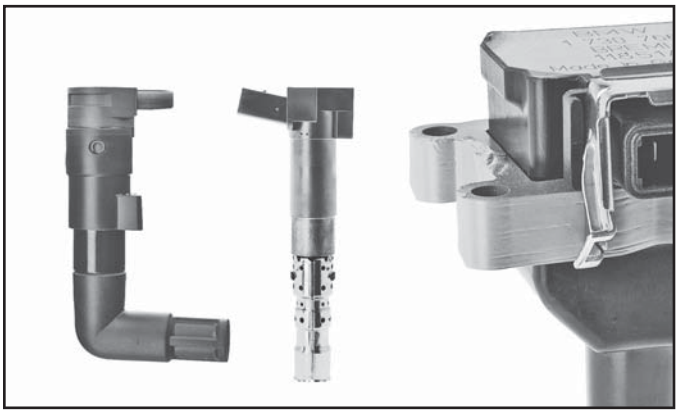


Pulse's Automotive Division has designed, developed, and manufactured coils and ignition transformers for the automotive industry for more than ten years. Pulse meets or beats the challenges of the stringent requirements of the international automotive industry with mature quality procedures, savvy research and development, the latest in production technology, and competitive pricing. This results in products that are "intelligent solutions" at competitive market prices.

Worldwide automotive teams manage customer projects with detailed attention to defined standards and procedures. Engineering teams work together to resolve customer problems, develop concepts, and manage research and development. Once developed and ready for manufacturing, products are manufactured in some of the most technologically advanced production facilities in the world.

OVERVIEW: PULSE AUTOMOTIVE PRODUCTS

Ignition Coils

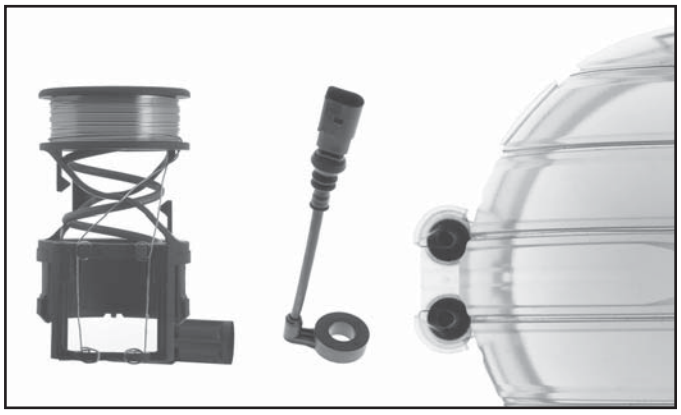


Ignition coils from Pulse are designed, developed, and sold to several automotive OEMs (original equipment manufacturers) and the IAM (international after-market).

Benefits:

- Experienced product development
- Technologically advanced development centers
- Customer-specified designs
- Superior process capability
- State-of-the-art production facilities

Coils



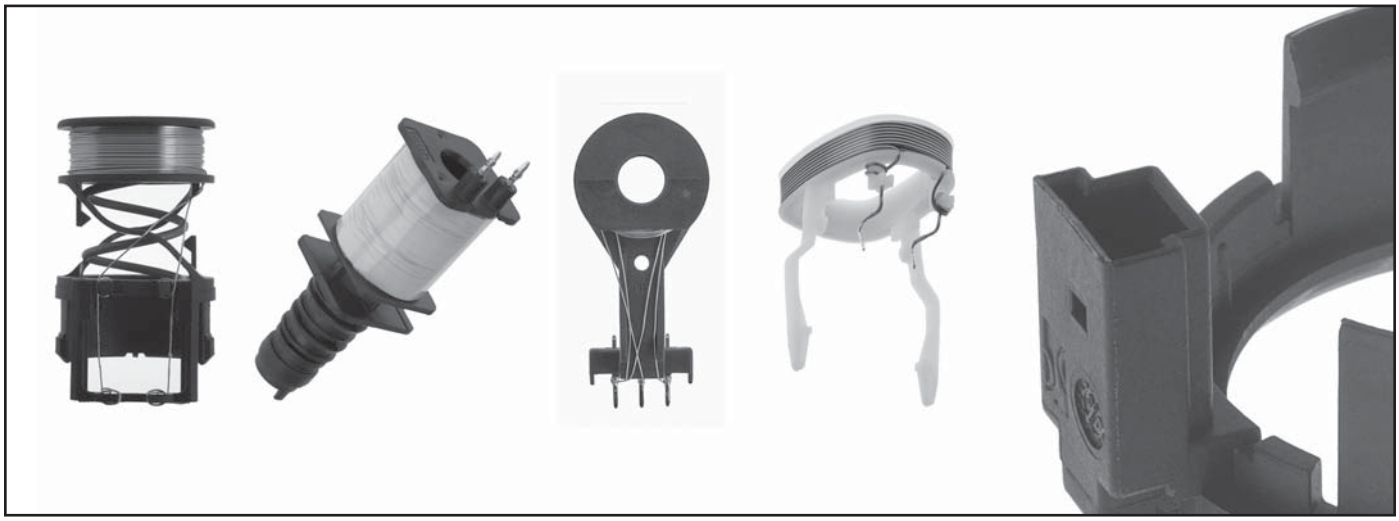
Fine-wire coils are found in automotive parts and coil assemblies. They are used in various applications that increasingly include safety and comfort devices for the automobile.

Benefits:

- Custom designs
- Superior process capability
- High-quality materials
- A mature "quality" system
- State-of-the-art production facilities

AUTOMOTIVE PRODUCTS

COILS



Custom coils, developed by Pulse, are wound on state-of-the-art, semi- and fully-automatic machines. A selection of fine wires, from 0.028mm to 0.095mm and standard wires, up to 0.75mm, are used. A variety of plastics, such as thermoplastics, duroplastics, and specialty plastics, designed for use in high-temperature applications in an engine compartment, can be selected for use as the coil body, depending on electrical, temperature and mechanical specifications.

AUTOMOTIVE COILS

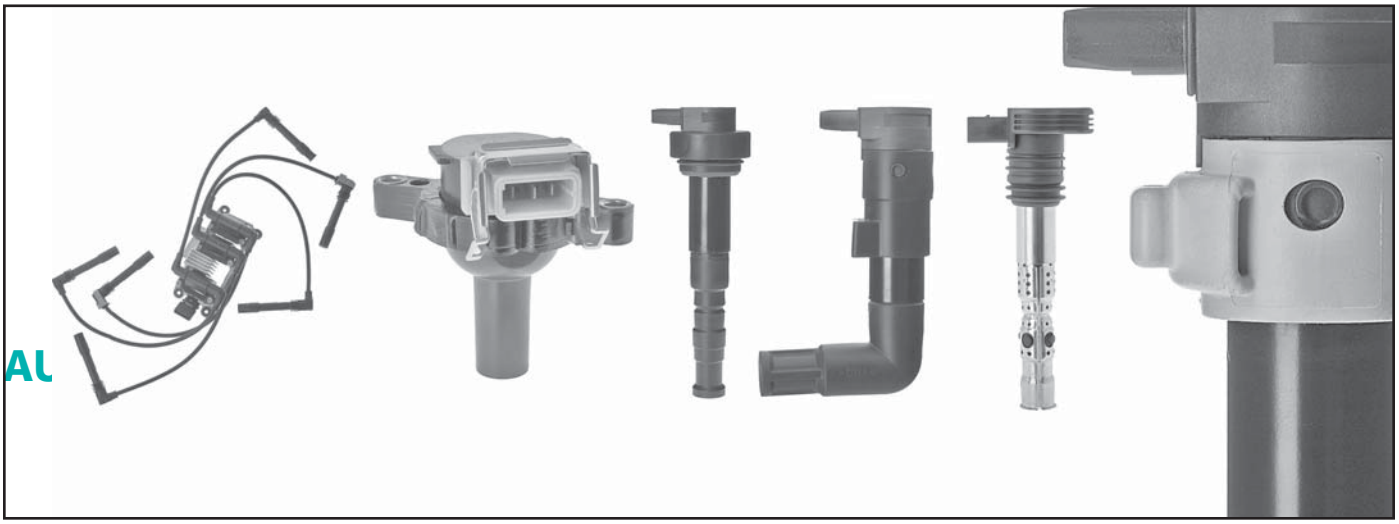
Target Applications	Operating Principles	Product Benefits
Sensor Coils for:		
Shock Absorber	Measures the stroke so the data can be used to regulate the characteristics of the shock absorber	Highly-integrated assembly consisting of an over-molded coil combined with the cable and connector
Positioning Sensor	A magneto-strictive displacement sensor used in various applications	Highly-robust, wear-and-tear resistant
Actuator Coils for:		
Climate Control Systems	Steers the hatches within the system	A very robust coil, sheathed in a metal frame
Automatic Gearbox	Controls hydraulic valves in an automatic transmission	Highly integrated assembly, heat-resistant coil with metal housing
Antenna Coils for:		
Body and Security System (immobilizer)	Active communication between key and vehicle	Flexible cabling approach a variety of options: over-molded assembly for robustness, tight tolerances on inductance, and DC resistance

COIL ASSEMBLIES

Target Applications	Operating Principles	Product Benefits
Toothbrush Chargiing Unit	An inductive charging unit for electric toothbrushes	Heat-resistant plastic, highly-integrated coil
Manufacturing Technology	Directional control valve within a pneumatic application	Highly robust, wear-and-tear resistant

AUTOMOTIVE PRODUCTS

IGNITION COILS



Pulse is a leading manufacturer of ignition transformers for use in passenger cars and motor sports. The ignition is the heart of the engine. For over 70 years, Pulse's developers (formerly part of BREMI) have been involved in producing products that address every aspect of ignition technology. The invention of the pencil-ignition transformer is a technology breakthrough in modern ignition concepts.

AUTOMOTIVE/MOTORCYCLE

Pencil Coils

Pulse's ignition coils, for both automobiles and motorcycles, are well known for reliability, as well as being a perfect fit for each customer's engine application. Custom coils are designed and manufactured by Pulse's rigorous design processes and production lines that are scalable to any required volume, high or low. Pulse uses accumulated knowledge and long-term practical experience with design and material selection to address specifications for thermal, mechanical, electrical and chemical ambient conditions.

Essential Features

- Lock-in-place for spark plugs with SAE-adapter
- Plug-in assembly spark plug shaft
- Integrated semiconductor power switch (IGBT)
- Soft shut-down
- TTL - Level control input
- Integrated EMC
- High-ignition energy and voltage capability
- Over-voltage protection
- Coil over-current limiting
- Active ECU-interface

THE FUTURE OF IGNITION

The **OBD Spark** is a new development in the field of ignition. It's a diagnostic-capable, inductive, high-energy, rod-ignition transformer with wideband sensing.

Product Highlights

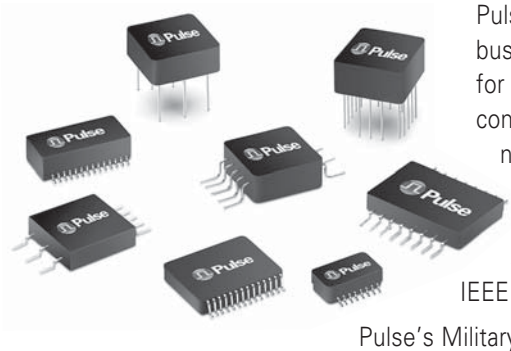
- Diagnostic capability through ion sensing
- Spark and combustion diagnostics
- Knock detection
- Active spark control
- Misfire detection

The **Transformer Plug Unit** is a combination of an ignition transformer and a spark plug. The unit is a smaller part. Thus, it reduces the component count.

Product Highlights

- Fewer components
- Adjustable abrasion resistance
- Water-resistant
- Age-resistant bobbin

MILITARY/AEROSPACE PRODUCTS



Pulse is one of the leading manufacturers of magnetic interface transformers, data bus couplers, delay lines, ethernet transformers, and custom electronic components for Military/Aerospace applications. Both catalog and custom designs include a comprehensive range of high-performance solutions and packaging for QPL and non-QPL MIL-STD-1553 interface transformers, various MIL-STD-1553 Data Bus Couplers and QPL and non-QPL active and passive delay lines. In addition, Copperhead transformers and transceivers support a variety of high-speed applications that includes Fibre Channel, Gigabit Ethernet, SONET, HDTV, IEEE1394B, SMTPE, Ethernet and AFDX buses.

Pulse's Military/Aerospace products are designed to meet the most demanding requirements for military, aerospace and industrial applications. For catalog and/or custom designed products, contact Pulse's Military/Aerospace Division at 215-781-6400 or find an authorized distributor or representative on the Pulse website.

HIGH SPEED DATA BUS

Copperhead™ Series Transceiver Line Interface Modules

High Speed Data and Communications over 100+ Meters of Copper

- Withstands infrared and vapor phase soldering
- Military temperature range -55°C to +125°C
- Low transmit/receive jitter
- Low power dissipation; 450 mW typical
- ECL logic interface
- Surface mount – pick-and-place compatible

Applications: Fibre Channel, Gigabit Ethernet, SONET, HDTV, IEEE 1394B, SMTPE

Ordering Information[1]

TM 531 D S A 1 (XX)

- **(XX)** – Customer product designator
- **blank** – No transmit driver
- **1** – 1100 mV output transmit driver and military temperature range
- **2** – 1100 mV output transmit drive and industrial temperature range
- **5** – Active cable equalizer circuit
- **A** – 5.00 Volt
- **B** – 3.30 Volt
- **S** – Impedance matched for STP and Twinax (150 Ω)
- **U** – Impedance matched for Unshielded Twisted Pair (100 Ω)
- **V** – Impedance matched for Video and Mini-Coax (75 Ω)
- **C** – Impedance matched for Coax (50 Ω)
- **D** – Gull wing, DIP, 28-pin package: 0.800"L x 0.400"W x 0.200"H
- **F** – Gull wing, flatpack, 28-pin package: 0.760"L x 0.610"W x 0.125"H
- **H** – Gull wing, half-DIP, 16-pin package: 0.300"L x 0.500"W x 0.250"H
- **133** – 132.8125 Mbaud version, 1/8 Speed Fibre Channel/ATM
- **266** – 265.625 Mbaud version, 1/4 Speed Fibre Channel
- **531** – 531.25 Mbaud version, 1/2 Speed Fibre Channel
- **1062** – 1.0625 Gbaud version, Full Speed Fibre Channel
- **1250** – 1.250 Gbaud version, Gigabit Ethernet (both short haul and long haul)
- **1485** – 1.485 Gbaud version, SMPTE

(16-pin package is only available on passive units.)

- **2125** – 2.125 Gbaud Double Speed Fiber Channel

1. ***See*** *data sheet "Copperhead™ Series Fibre Channel Transceiver Line Interface Module" (fibre.pdf) on the data sheet menu at www.pulseeng.com.*

Copperhead ™ Series[1, 2]

Part Number	Turns Ratio (±5%)	Primary Inductance (µH MIN)	Rise Time (ps MAX @ 20-80%)	DC Resistance (Ω MAX)	Hipot (V_{RMS} MIN)	Insertion Loss (dB MAX)	Application Nominal Bit Rate (Mbaud)
T-330SCT	1CT:1CT	26.0 @ 1.0 V_{RMS}, 100 kHz)	350	0.2	1500	-1.5 (15-165 MHz)	265.625 (quarter speed)
T-1062SCT	1CT:1CT	3.75 @ 1.0 V_{RMS}, 100 kHz)	280	0.2	1500	-2.0 (100-625 MHz)	1062.50 (full speed)
T-1250SCT	1CT:1CT	3.75	280	0.2	1500	-2.0	1250
T-1485SCT	1CT:1CT	3.75	280	0.2	1500	-2.0	1485 (SMPTE)
T-3200SCT	1:1	0.70	200	0.2	1500	-4.50	3200

1. ***Web:*** *http://www.pulseeng.com home page, click on "DATA SHEETS." Then select Military Aerospace, "CopperHead™ High Speed Dual Transformers" (M105.pdf).*
2. ***Dual Transformers*** *designed specifically for Point-to-Point Coupling to 150 Ω Twinax Cable:* ***Withstands*** *infrared and vapor phase soldering;* ***Military Temp Range*** *= -55°C to +125°C;* ***Weight*** *= 1.0 grams;* ***Surface Mount*** *= pick-and-place compatible.* ***Applications:*** *Fibre Channel, Gigabit Ethernet, SONET, HDTV, IEEE 1394B, SMTPE.*

Application Notes*: These isolation transformers protect the station from static charges that may develop on the cable and prevent ground loop currents from being transferred between stations. They have also been designed to provide common mode rejection within the transmission band, reducing EMI.*

SM = Surface Mount

MILITARY/AEROSPACE PRODUCTS

MILITARY/AEROSPACE ETHERNET/AFDX

10/100

Number of Ports	Part Number	Turns Ratio	Configuration [1] RX	TX	Package Style [2]	Size L/W/H (in.)	Data Sheet [1]
Single	100B-1001	1CT:1CT	T, C, S	T,C	12-pin SMT	.630/.470/.185	M101
	100B-1001X	1CT:1CT	T, C, S	T,C	12-pin SMT	.630/.470/.185	M101
	100B-1003	1CT:1CT	T,C	T,C	16-pin SOIC	.500/.265/.235	M101
	100B-1003X	1CT:1CT	T,C	T,C	16-pin SOIC	.500/.265/.235	M101
Dual	100B-2002	1CT:1CT	T, C	T,C	24-pin SMT	.518/.595/.241	M110
	100B-2002X	1CT:1CT	T, C	T,C	24-pin SMT	.518/.595/.241	M110
Quad	100B-4005	1CT:1CT	T,C	T,C	40-pin SOIC	1.120/.480/.280	M102
	100B-4005X	1CT:1CT	T,C	T,C	40-pin SOIC	1.120/.480/.280	M102

1. ***"10/100Base-TX** Single-Port Transformer Modules - Military/Aerospace Grade" (M101.pdf) or "10/100Base-TX Quad-Port Transformer Modules - Military/ Aerospace Grade" (M102.pdf) at www.pulseeng.com.*
2. ***T** = Transformer, **C** = Choke, **S** = Shunt inductor, **SMT** = 50 mil pitch leads, **SOIC** = 100 mil pitch leads*

Gigabit

Single	1000B-5001	1CT:1CT	T, C, S	T, C, S	24-pin SOIC	.695/.635/.230	M106 [1]
	1000B-5001X	1CT:1CT	T, C, S	T, C, S	24-pin SOIC	.695/.635/.230	M106 [1]
	1000B-5002	1CT:1CT	T, C, S	T, C, S	24-pin SOIC	.695/.635/.230	M106 [1]
	1000B-5002X	1CT:1CT	T, C, S	T, C, S	24-pin SOIC	.695/.635/.230	M106 [1]
Dual	1000B-5003	1CT:1CT	T, C	T, C	50-pin SOIC [3]	1.095/.430/.340	M106 [2]
	1000B-5003X	1CT:1CT	T, C	T, C	50-pin SOIC [3]	1.095/.430/.340	M106

1. ***Web:** www.pulseeng.com home page, pick data sheets"10/100/1000Base-T Single Port Transformer Modules--Military/ space Grade" (M106.pdf).*
2. ***T** = Transformer, **C** = Choke, **S** = Shunt inductor, **SMT** = 50 mil pitch leads, **SOIC** = 100 mil pitch leads*
3. ***0.99mm** (.039") pitch leads*

MIL-STD-1553

Non-QPL, Low Profile and Stacked [1]

Part Number [2]	Turns Ratio (±3%)	Impedance (Ω MIN)	Package* L/W/H (in.)	Data Sheet
FL1553-1	1CT:1CT/1CT:.707CT	4,000	.630/.630/.155	NQPLC2 [2,3]
GL1553-1	1CT:1CT/1CT:.707CT	4,000	.630/.630/.155	NQPLC2 [2,3]
TL1553-1	1CT:1CT/1CT:.707CT	4,000	.630/.630/.155	NQPLC2 [2,3]
FL1553-2	1.4CT:1CT/2CT:1CT	7,200	.630/.630/.155	NQPLC2 [2,3]
GL1553-2	1.4CT:1CT/2CT:1CT	7,200	.630/.630/.155	NQPLC2 [2,3]
TL1553-2	1.4CT:1CT/2CT:1CT	7,200	.630/.630/.155	NQPLC2 [2,3]
FL1553-3	1.25CT:1CT/1.66CT:1CT	4,000	.630/.630/.155	NQPLC2 [2,3]
GL1553-3	1.25CT:1CT/1.66CT:1CT	4,000	.630/.630/.155	NQPLC2 [2,3]
TL1553-3	1.25CT:1CT/1.66CT:1CT	4,000	.630/.630/.155	NQPLC2 [2,3]
FL1553-5	1CT:2.12CT/1CT:1.5CT	4,000	.630/.630/.155	NQPLC2 [2,3]
GL1553-5	1CT:2.12CT/1CT:1.5CT	4,000	.630/.630/.155	NQPLC2 [2,3]
TL1553-5	1CT:2.12CT/1CT:1.5CT	4,000	.630/.630/.155	NQPLC2 [2,3]
FL1553-45	1CT:2.5CT/1CT:1.79CT	4,000	.630/.630/.155	NQPLC2 [2,3]
GL1553-45	1CT:2.5CT/1CT:1.79CT	4,000	.630/.630/.155	NQPLC2 [2,3]
TL1553-45	1CT:2.5CT/1CT:1.79CT	4,000	.630/.630/.155	NQPLC2 [2,3]
DFL1553-1	1CT:1CT/1CT:.707CT	4,000	.930/.630/.155	NQPLC2 [2,3]
DGL1553-1	1CT:1CT/1CT:.707CT	4,000	.930/.630/.155	NQPLC2 [2,3]
DTL1553-1	1CT:1CT/1CT:.707CT	4,000	.930/.630/.155	NQPLC2 [2,3]
DFL1553-2	1.4CT:1CT/2CT:1CT	7,200	.930/.630/.155	NQPLC2 [2,3]
DGL1553-2	1.4CT:1CT/2CT:1CT	7,200	.930/.630/.155	NQPLC2 [2,3]
DTL1553-2	1.4CT:1CT/2CT:1CT	7,200	.930/.630/.155	NQPLC2 [2,3]
DFL1553-3	1.25CT:1CT/1.66CT:1CT	4,000	.930/.630/.155	NQPLC2 [2,3]
DGL1553-3	1.25CT:1CT/1.66CT:1CT	4,000	.930/.630/.155	NQPLC2 [2,3]
DTL1553-3	1.25CT:1CT/1.66CT:1CT	4,000	.930/.630/.155	NQPLC2 [2,3]
DFL1553-5	1CT:2.12CT/1CT:1.5CT	4,000	.930/.630/.155	NQPLC2 [2,3]
DGL1553-5	1CT:2.12CT/1CT:1.5CT	4,000	.930/.630/.155	NQPLC2 [2,3]
DTL1553-5	1CT:2.12CT/1CT:1.5CT	4,000	.930/.630/.155	NQPLC2 [2,3]
DFL1553-45	1CT:2.5CT/1CT:1.79CT	4,000	.930/.630/.155	NQPLC2 [2,3]
DGL1553-45	1CT:2.5CT/1CT:1.79CT	4,000	.930/.630/.155	NQPLC2 [2,3]

Part Number [2]	Turns Ratio (±3%)	Impedance (Ω MIN)	Package* L/W/H (in.)	Data Sheet
DTL1553-45	1CT:2.5CT/1CT:1.79CT	4,000	.930/.630/.155	NQPLC2 [2,3]
STQ1553-1	1CT:1CT/1CT:.707CT	4,000	.630/.630/.340	NQPLC2 [2,3]
STQ1553-2	1.4CT:1CT/2CT:1CT	7,200	.630/.630/.340	NQPLC2 [2,3]
STQ1553-3	1.25CT:1CT/1.66CT:1CT	4,000	.630/.630/.340	NQPLC2 [2,3]
STQ1553-5	1CT:2.12CT/1CT:1.5CT	4,000	.630/.630/.340	NQPLC2 [2,3]
STQ1553-45	1CT:2.5CT/1CT:1.79CT	4,000	.630/.630/.340	NQPLC2 [2,3]
SFQ1553-1	1CT:1CT/1CT:.707CT	4,000	.630/.630/.340	NQPLC2 [2,3]
SGQ1553-1	1CT:1CT/1CT:.707CT	4,000	.630/.630/.340	NQPLC2 [2,3]
SFQ1553-2	1.4CT:1CT/2CT:1CT	7,200	.630/.630/.340	NQPLC2 [2,3]
SGQ1553-2	1.4CT:1CT/2CT:1CT	7,200	.630/.630/.340	NQPLC2 [2,3]
SFQ1553-3	1.25CT:1CT/1.66CT:1CT	4,000	.630/.630/.340	NQPLC2 [2,3]
SGQ1553-3	1.25CT:1CT/1.66CT:1CT	4,000	.630/.630/.340	NQPLC2 [2,3]
SFQ1553-5	1CT:2.12CT/1CT:1.5CT	4,000	.630/.630/.340	NQPLC2 [2,3]
SGQ1553-5	1CT:2.12CT/1CT:1.5CT	4,000	.630/.630/.340	NQPLC2 [2,3]
SFQ1553-45	1CT:2.5CT/1CT:1.79CT	4,000	.630/.630/.340	NQPLC2 [2,3]
SGQ1553-45	1CT:2.5CT/1CT:1.79CT	4,000	.630/.630/.340	NQPLC2 [2,3]
SLQG1553-1	1CT:1CT/1.4CT:1CT	4,000	.630/.630/.280	M104 [2]
SLQG1553-2	1.4CT:1CT/2CT:1CT	7,200	.630/.630/.280	M104 [2]
SLQG1553-3	1.25CT:1CT/1.66CT:1CT	4,000	.6 30/.630/.280	M104 [2]
SLQG1553-5	1CT:2.12CT/1CT:1.5CT	4,000	.630/.630/.280	M104 [2]
SLQG1553-45	1CT:2.5CT/1CT:1.79CT	4,000	.630/.630/.280	M104 [2]
SLQT1553-1	1CT:1CT/1.4CT:1CT	4,000	.630/.630/.280	M104 [2]
SLQT1553-2	1.4CT:1CT/2CT:1CT	7,200	.630/.630/.280	M104 [2]
SLQT1553-3	1.25CT:1CT/1.66CT:1CT	4,0 00	.630/.630/.280	M104 [2]

1. ***Designed** and built to conform to MIL-PRF-21038/27*
2. ***Web** http://www.pulseeng.com home page, click data sheets,"non-QPL MIL-STD-1553 Interfacr Transformers" (N_QPL_Cat2_links.pdf) and "MIL-STD-1553 Interface Transformers Low Profile/Stacked/Dual Ratio" (M104.pdf).*
3. ***Prefix/Operating Temperature : xxxC1553-xx**/0°C to +70°C ; **xxxN1553-xx** / -40°C to +85°C; **xxx1553-xx**/-55°C to +125°C*

***Mounting: FP** = Flat Pack **TH** = Through Hole **SM** = Surface Mount

continued next page

MILITARY/AEROSPACE PRODUCTS

MIL-STD-1553 *(continued)*

Non-QPL, Low Profile and Stacked *(continued)*[1]

Part Number	Turns Ratio (±3%)	Impedance (Ω MIN)	Package* L/W/H (in.)	Data Sheet[2]
SLQT1553-5	1CT:2.12CT/1CT:1.5CT	4,000	.630/.630/.280	M104
SLQT1553-45	1CT:2.5CT/1CT:1.79CT	4,000	.630/.630/.280	M104
SLQF1553-1	1CT:1CT/1.4CT:1CT	4,000	.630/.630/.280	M104
SLQF1553-2	1.4CT:1CT/2CT:1CT	7,200	.630/.630/.280	M104
SLQF1553-3	1.25CT:1CT/1.66CT:1CT	4,000	.630/.630/.280	M104
SLQF1553-5	1CT:2.12CT/1CT:1.5CT	4,000	.630/.630/.280	M104
SLQF1553-45	1CT:2.5CT/1CT:1.79CT	4,000	.630/.630/.280	M104

1. ***Designed*** *and built to conform to MIL-PRF-21038/27*
2. ***http://****www.pulseeng.com: home page, pick DATA SHEETS "Non-QPL MIL-STD-1553 Interface Transformers" (N_QPL_Cat2_links.pdf) or "MIL-STD-1553 InterfaceTransformers - Low profile/Stacked/Dual Ratio" (M104.pdf).*

Interface Transformers — COTS Series[1, 2]

Part[2] Number	Turns Ratio (±3%)	Impedance (Ω MIN)	Package* (L/W/H) in.	Data[3] Sheet
x1553-1	1CT:1CT/1CT:.707CT	4,000	.625/.625/.250	NQPLC2
x1553-2	1.4CT:1CT/2CT:1CT	7,200	.625/.625/.250	NQPLC2
x1553-3	1.25CT:1CT/1.66CT:1CT	4,000	.625/.625/.250	NQPLC2
x1553-5	1CT:2.12CT/1.5CT:1CT	4,000	.625/.625/.250	NQPLC2
x1553-45	1CT:2.5CT/1CT:1.79CT	4,000	.625/.625/.250	NQPLC2

1. ***Designed*** *and built to conform to MIL-PRF-21038/27*
2. ***Prefix/Operating Temperature: C****/0°Cto +70°C;* ***N****/-40°C to +85°C;* ***TQ****/-55°C to +125°C*
3. ***Web:*** *www.pulseeng.com home page, pick data sheets "Non-QPL MIL-STD-1553 Interface Transformers" (N_QPL_Cat2_links.pdf).*

Interface Transformers — Low Profile Miniature Series

Part Number	Turns Ratio (±3%)	Impedance (Ω MIN)	Package* (L/W/H) in.	Data Sheet
SMG1553-60	1.25CT:1CT	4,000	.400/.400/.185	M112
SMG1553-61	1.66CT:1CT	4,000	.400/.400/.185	M112
SMG1553-62	1.41CT:1CT	7,200	.400/.400/.185	M112
SMG1553-63	2CT:1CT	7,200	.400/.400/.185	M112
SMG1553-65	1CT:1.79CT	4,000	.400/.400/.185	M112
SMG1553-66	1CT:2.7CT	4,000	.400/.400/.185	M112

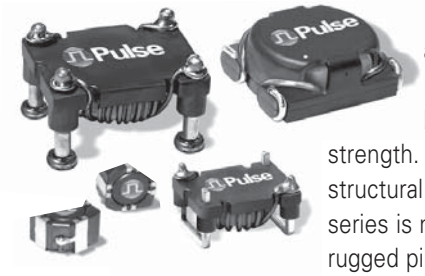
QPL Series — Qualified to MIL-PRF-21038/27

Part[1] Number	Military Designation Number	Turns Ratio (±3%)	Impedance (Ω MIN)	Package* L/W/H (in.)	Data[2] Sheet
Q1553-20	M21038/27-05	1:1.41	3,000	.500/.350/.250	QPL6
Q1553-21	M21038/27-06	1CT:1CT	3,000	.500/.350/.250	QPL6
Q1553-22	M21038/27-07	1CT:1.41CT	3,000	.500/.350/.250	QPL6
Q1553-23	M21038/27-08	1CT:1.66CT	3,000	.500/.350/.250	QPL6
Q1553-24	M21038/27-09	1CT:2CT	3,000	.500/.350/.250	QPL6
Q1553-25	M21038/27-28	1CT:1.5CT	3,000	.500/.350/.250	QPL6
Q1553-51	M21038/27-29	1CT:1.79CT	3,000	.500/.350/.250	QPL6
Q1553-52	M21038/27-30	1CT:2.5CT	3,000	.500/.350/.250	QPL6
Q1553-1	M21038/27-01	1CT:1CT/1CT:.707CT	4,000	.625/.625/.250	QPL6
Q1553-2	M21038/27-02	1.4CT:1CT/2CT:1CT	7,200	.625/.625/.250	QPL6
Q1553-3	M21038/27-03	1.25CT:1CT/1.66CT:1CT	4,000	.625/.625/.250	QPL6
Q1553-5	M21038/27-10	1CT:2.12CT/1CT:1.5CT	4,000	.625/.625/.250	QPL6
Q1553-45	M21038/27-26	1CT:2.5CT/1CT:1.79CT	4,000	.625/.625/.275	QPL6
Q1553-81	M21038/27-21	1CT:1CT/1CT:.707CT	4,000	.625/.625/.275	QPL6
Q1553-82	M21038/27-22	1.4CT:1CT/2CT:1CT	7,200	.625/.625/.275	QPL6
Q1553-83	M21038/27-23	1.25CT:1CT/1.66CT:1CT	4,000	.625/.625/.275	QPL6
Q1553-84	M21038/27-24	1CT:2.12CT/1CT:1.5CT	4,000	.625/.625/.275	QPL6
Q1553-85	M21038/27-25	1CT:2.5CT/1CT:1.79CT	4,000	.625/.625/.275	QPL6
FPQ1553-6	M21038/27-16	1CT:1CT/1CT:.707CT	4,000	.625/.625/.250	QPL6
SMQ1553-6	M21038/27-11	1CT:1CT/1CT:.707CT	4,000	.625/.625/.250	QPL6
FPQ1553-7	M21038/27-17	1.4CT:1CT/2CT:1CT	7,200	.625/.625/.250	QPL6
SMQ1553-7	M21038/27-12	1.4CT:1CT/2CT:1CT	7,200	.625/.625/.250	QPL6
FPQ1553-8	M21038/27-18	1.25CT:1CT/1.66CT:1CT	4,000	.625/.625/.250	QPL6
SMQ1553-8	M21038/27-13	1.25CT:1CT/1.66CT:1CT	4,000	.625/.625/.250	QPL6
FPQ1553-10	M21038/27-20	1CT:2.12CT/1CT:1.5CT	4,000	.625/.625/.250	QPL6
SMQ1553-10	M21038/27-15	1CT:2.12CT/1CT:1.5CT	4,000	.625/.625/.250	QPL6
FPQ1553-45	M21038/27-31	1CT:2.5CT/1CT:1.79CT	4,000	.625/.625/.250	QPL6
SMQ1553-45	M21038/27-27	1CT:2.5CT/1CT:1.79CT	4,000	.625/.625/.250	QPL6

1. ***Part number options:*** *C and T level QPL testing (xxQC1553-xx, xxQT1553-xx, M21038/27-xxC, M21038/27-xxT).*
2. ***Web:*** *www.pulseeng.com home page, pick data sheets "QPL MIL-STD-1553 Interface Transformers" (QPL6.pdf).*
3. ***Summary Performance Specifications:***
   Droop *= 20%*
   Overshoot *= ±1 VMAX;*
   Common Mode Rejection *= 45 dB*
   Frequency Range *(no load) = 75 kHz to 1 MHz*
   Operating Temperature Range *= -55°C to +130°C*
   Weight *= 5 grams*
   Insulation Resistance *= 10 kMΩ @ 250 VDC*
   Dielectric Withstanding Voltage *= 100 VRMS*

***Mounting:** **FP** = Flat Pack **TH** = Through Hole **SM** = Surface Mount

MILITARY/AEROSPACE PRODUCTS



Pulse offers off-the-shelf inductors and transformers for modern military and aerospace power applications: the SLED™, the SLIC, and the POGO™ series. The SLED series consists of rail-mount inductors with a ruggedized header for durable board connections, utilizing two rails for board mounting and cores bonded to high temperature headers for durability and mechanical strength. The SLIC series, self-leaded transformers and inductors, has ruggedized construction. The structural header is bonded to the cores and lead wires, increasing mechanical durability. The POGO series is made up of pad-mounted inductors with open construction for robust board mounting and rugged pins used for both surface board mounting and electrical connection.

Pulse also offers shielded drum core inductors, including ruggedized mounting hardware to improve board mounting performance for enhanced mechanical durability. These inductors eliminate the use of pure tin plating for compliance with military and aerospace requirements. A variety of inductances and current capacity is offered in five different physical sizes to meet the majority of system performance requirements.

OFF-THE-SHELF POWER INDUCTORS & TRANSFORMERS

Toroid Power Inductors - SLED Series

Part Number	@ IRATED (µH)	IRATED (A)	DCR (mΩ MAX)	Inductance @0ADC (µH)	Package* L/W/H (in.)	Data Sheet
SLED 20						
PL8100	1.01	3.40	11	1.1	.400/.345/.250	M107
PL81 01	6.2	1.40	70	7	.400/.345/.250	M107
PL8102	17.6	1.00	125	22.7	.400/.345/.250	M107
SLED 30						
PL8110	3.8	4.80	17.3	5.2	.625/.525/.400	M107
PL8111	9.4	2.80	43.4	12.3	.625/.525/.400	M107
PL8112	29.7	1.40	166	35.3	.625/.525/.400	M107
PL8113	114	0.94	380	167	.625/.525/.400	M107
SLED 40						
PL8120	2.5	8.00	8.3	3.8	.725/.575/.410	M107
PL8121	5.1	5.40	17.7	7.5	.725/.575/.410	M107
PL8122	16.2	2.70	72	21.9	.725/.575/.410	M107
PL8123	58.1	1.30	290	73	.725/.575/.410	M107
PL8124	192	0.90	560	292	.725/.575/.410	M107
PL8125	383	0.72	862	672	.725/.575/.410	M107
PL8130	4.9	7.80	12.4	7.9	.725/.575/.410	M107
PL8131	9	5.50	28	14	.725/.575/.410	M107
PL8132	29.1	2.70	100	40.5	.725/.575/.410	M107
PL8133	645	0.74	1250	1134	.725/.575/.410	M107
PL8150	0.81	14.30	2.5	1.25	.725/.575/.410	M107
PL8151	1.32	11.50	4.0	2.1	.725/.575/.410	M107
SLED 50						
PL8140	9.3	7.20	18.7	16	.900 /.690/.520	M107
PL8141	16.1	5.10	32.0	25.9	.900/.690/.520	M107
PL8142	50	2.60	133	72.9	.900/.690/.520	M107
PL8143	x1070	0.71	1700	1950	.900/.690/.520	M107
PL8160	1.68	13.90	3.6	2.8	.900/.690/.520	M107
PL8161	2.5	11.40	5.4	4.2	.900/.690/.520	M107
PL8170	3.5	12.40	6.6	6.5	.900/.690/.520	M107
PL8171	4.7	10.40	8.3	8.4	.900/.690/.520	M107

SMT Common Mode Chokes: SLIC Series

Part Number	Inductance (mH ±35%)	IRATED (A)	DCR (mΩ MAX)	Package* L/W/H (in.)	Data Sheet
SLIC Series, Common Mode Chokes					
PL8200	0.47	14.0	8	1.220/1.000/.500	M108
PL8201	0.63	11.6	10	1.220/1.000/.500	M108
PL8202	0.81	9.70	14	1.220/1.000/.500	M108
PL8203	0.53	7.20	15	1.110/1.00/395	M108
PL8204	0.59	5.60	21	.770/.670/.395	M108
PL8205	0.77	4.70	40	.770/.670/.395	M108
PL8206	0.22	3.30	60	.770/.670/.390	M108
PL8207	1.32	3.30	60	.770/.670/.395	M108
PL8208	1.47	2.80	80	.770/.670/.395	M108
PL8209	0.88	1.63	110	.500/.500/.215	M108
PL8210	1.17	1.22	200	.500/.500/.215	M108

SMT Power Inductors: SLIC (HCCI-80) Series

Part Number	@ IRATED (µH)	IRATED (A)	DCR (mΩ MAX)	Inductance @0ADC (µH)	Package* L/W/H (in.)	Data Sheet
SLIC (HCCI) Series						
PL8304 P	1.1	38	1.3	2.1	1.220/1.000/.500	M109
PL8303 P	1.6	34	1.6	3.5	1.220/1.000/.500	M109
PL8302 P	2.45	27	2.5	5.1	1.2 20/1.000/.500	M109
PL8301 P	3.2	24	3.5	7.2	1.220/1.000/.500	M109
PL8304 S	4.3	19	5.1	8.4	1.220/1.000/.500	M109
PL8300 P	4.52	19	4.8	9.5	1.220/1.000/.500	M109
PL8303 S	6.4	17	6.4	13.8	1.220/1.000/.500	M109
PL8302 S	9.8	13.5	10.1	20.4	1.220/1.000/.500	M109
PL8301 S	12.8	12	13.8	28.7	1.220/1.000/.500	M109
PL8300 S	18.1	9.5	19.3	38.0	1.220/1.000/.500	M109

1. Connection: ***P*** *= Parallel,* ***S*** *= Series*

SMT Power Inductors: Toroid, SLED Series

SLED 25						
PL8500	9.4	3.8	32	10.4	.625/.525/.310	M113
PL8501	13.3	3.2	46	14.6	.625/.525/.310	M113
PL8502	23	2.4	74	25	.625/.525/.310	M113
PL8503	50	1.6	135	56	.625/.525/.310	M113
PL8504	75	1.3	220	83	.625/.525/.310	M113
PL8505	90	1.2	285	100	.625/.525/.310	M113
PL8506	137	1	425	152	.625/.525/.310	M113
PL8507	200	.82	673	220	.625/.525/.310	M113
PL8508	305	.66	972	331	.625/.525/.310	M113
PL8509	439	.56	1520	472	.625/.525/.310	M113

SMT Power Inductors: Toroid, POGO Series

POGO 25						
PL8600 P	2.0	8.30	7.6	2.2	.625/.525/.310	M114
PL8601 P	2.4	7.20	10.9	2.6	.625/.525/.310	M114
PL8602 P	5.0	5.20	19.0	5.5	.625/.525/.310	M114
PL8600 S	7.0	4.16	16.0	8.75	.625/.525/.310	M114
PL8603 P	9.3	3.80	29.8	10.4	.625/.525/.310	M114
PL8601 S	8.4	3.78	21.8	10.4	.625/.525/.310	M114
PL8604 P	14.1	3.10	45.3	15.7	.625/.525/.310	M114
PL8605 P	19.8	2.6	66.3	22.1	.625/.525/.310	M114
PL8602 S	17.9	2.6	38.0	22.45	.625/.525/.310	M114
PL8606 P	29.3	2.20	106	32.8	.625/.525/.310	M114
PL8603 S	33.8	1.89	60	41.7	.625/.525/.310	M114
PL8607 P	42.6	1.80	151	47.6	.625/.525/.310	M114
PL8604 S	50.9	1.54	91	62.8	.625/.525/.310	M114
PL8608 P	61.3	1.50	224	67.5	.625/.525/.310	M114
PL8605 S	71.5	1.30	133	88.2	.625/.525/.310	M114

1. Connection: ***P*** *= Parallel,* ***S*** *= Series*

continued next page

***SM** = Surface Mount

MILITARY/AEROSPACE PRODUCTS

OFF-THE-SHELF POWER INDUCTORS & TRANSFORMERS *(continued)*

SMT Power Inductors: Toroid, POGO Series *(continued)*

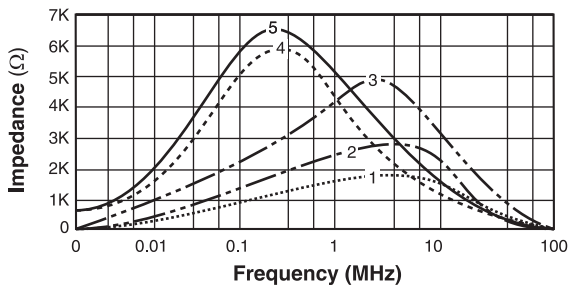
Part Number	@ I_{RATED} (µH)	I_{RATED} (A)	DCR (mΩ MAX)	Inductance @0A$_{DC}$ (µH)	Package* L/W/H (in.)	Data Sheet
POGO 25 *(continued)*						
PL8609 P	84.2	1.20	324	91.0	.625/.525/.310	M114
PL8606 S	106.1	1.07	202	131.0	.625/.525/.310	M114
PL8607 S	154.2	0.89	302	190.3	.625/.525/.310	M114
PL8608 S	218.9	0.74	444	270.2	.625/.525/.310	M114
PL86 09 S	295.0	0.64	636	364.0	.625/.525/.310	M114
POGO 40						
PL8400 S	43.6	1.1	309	77	.725/.575/.380	M111
PL8700 P	1.5	14.40	4.41	2.2	.725/.600/.380	M115
PL8701 P	2.4	11.20	6.54	3.5	.725/.600/.380	M115
PL8702 P	4.2	8.20	10.47	5.9	.725/.600/.380	M115
PL8703 P	5.8	6.80	14.94	7.9	.725/.600/.380	M115
PL8700 S	6.1	7.20	17.60	9.0	.725/.600/.380	M115
PL8704 P	7.6	5.70	20.99	10.1	.725/.600/.380	M115
PL8701 S	9.7	5.60	26.20	14.0	.725/.600/.380	M115
PL8705 P	12.1	5.40	23.24	18.5	.725/.600/.380	M115
PL8702 S	17.0	4.10	41.90	23.7	.725/.600/.380	M115
PL8706 P	18.0	4.40	38.15	27.4	.725/.600/.380	M115
PL8703 S	23.1	3.40	59.70	31.5	.725/.600/.380	M115
PL8707 P	27.0	3.54	53.21	40.5	.725/.600/.380	M115
PL8704 S	30.6	2.85	84.00	40.5	.725/.600/.380	M115
PL8708 P	34.8	3.00	73.89	50.5	.725/.600/.380	M115
PL8705 S	48.5	2.70	93.00	74.1	.725/.600/.380	M115
PL8706 S	72.0	2.20	152.60	109.8	.725/.600/.380	M115
PL8708 S	139.1	1.50	295.60	202.2	.725/.600/.380	M115
PL8707 S	108.0	1.77	212.80	161.8	.725/.600 /.380	M115
POGO 50						
PL8401 S	21.9	2.7	90.5	39.5	.910/.700/.510	M111
PL8402 S	4.025	6.4	23	6.575	.910/.700/.510	M111
PL8403 P	0.53	23.8	3	0.88	.910/.700/.510	M111
PL8404 P	1.1	21	2.5	2.1	.910/.700/.510	M111
POGO 60						
PL8405 P	2.1	22.4	3.4	4	1.280/1.070/.510	M111

1. Connection: ***P*** *= Parallel,* ***S*** *= Series*

SMT Common Mode Inductors: Toroid, POGO Series

Part Number	Inductance (mH ±30%)	I_{RATED} (A)	DCR (mΩ) MAX	SRF (MHz)	Impedance Curve[1]	Package* L/W/H (in.)	Data Sheet
POGO 40							
PL8801	1.5	1.50	60	2	2	.725/.575/.380	M116
PL8803	10.0	1.00	450	0.5	4	.725/.575/.380	M116
PL8804	22.0	0.50	850	0.3	5	.725/.575/.380	M116
POGO 50							
PL8800	1.0	3.60	50	4	1	.910/.700/.510	M116
PL8802	3.0	2.50	80	2.2	3	.910/.700/.510	M116

1. See *graph below.*



SMT Power Inductors: Shielded Drum Core

Part N umber	Inductance @I_{RATED} (µH TYP)	I_{RATED} [1] (A)	DCR (mΩ MAX)	Inductance @0A$_{DC}$ [2] (µH)	Saturation Current @25°C	Package* L/W/H (in.)	Data Sheet
PL8901	0.80	11	4.0	1.0 [2]	14	.413/.413/.280	M117
PL8902	1.20	10	6.0	1.5 [2]	13	.413/.413/.280	M117
PL8903	2.1	9.0	7.3	2.7 [2]	11	.413/.413/.280	M117
PL8904	2.9	8.0	8.5	3.7 [2]	9.2	.413/.413/.280	M117
PL8905	3.7	7.3	9.5	4.7 [2]	8.2	.413/.413/.280	M117
PL8906	4.8	6.0	16.5	6.0 [2]	6.9	.413/.413/.280	M117
PL8907	6	5.5	18.5	7.6 [2]	6.2	.413/.413/.280	M117
PL8908	8	5.0	21.8	10	5.5	.413/.413/.280	M117
PL8909	9.6	4.5	29.0	12	5.1	.413/.413/.280	M117
PL8910	12	4.1	35.4	15	4.4	.413/.413/.280	M117
PL8911	14.4	4.0	37.0	18	4.3	.413/.413/.280	M117
PL8912	17.6	3.8	42.0	22	3.8	.413/.413/.280	M117
PL8913	21.6	3.4	45.9	27	3.4	.413/.413/.280	M117
PL8914	26.4	3.0	64.8	33	3.0	.413/.413/.280	M117
PL8915	31.2	2.7	81.5	39	2.8	.413/.413/.280	M117
PL8916	37.6	2.6	89.0	47	2.6	.413/.413/.280	M117
PL8917	54.4	2.1	135.0	68	2.1	.413/.413/.280	M117
PL9101	0.96	10.5	4.5	1.0 [2]	12.7	.413/.413/.248	M121
PL9102	1.52	9.5	5.5	1.8 [2]	10.1	.413/.413/.248	M121
PL9103	2.34	7.8	7.8	2.7 [2]	8.4	.413/.413/.248	M121
PL9104	3.27	6.7	11.0	3.9 [2]	7.2	.413/.413/.248	M121
PL9105	4.39	5.6	15.6	5.1 [2]	6.3	.413/.413/.248	M121
PL9106	5.54	5.2	18.0	6.8 [2]	5.6	.413/.413/.248	M121
PL9107	6.73	5.0	20.0	8.2 [2]	5.1	.413/.413/.248	M121
PL9108	8.19	4.6	22	10	4.6	.413/.413/.248	M121
PL9109	9.9	4.2	27	12	4.2	.413/.413/.248	M121
PL9110	13.4	3.6	30	15	3.6	.413/.413/.248	M121
PL9111	15.4	3.4	40	18	3.4	.413/.413/.248	M121
PL9112	17.6	3.2	45	22	3.2	.413/.413/.248	M121
PL9113	22.5	2.8	62	27	2.8	.413/.413/.248	M121
PL9114	28.5	2.5	70	33	2.5	.413/.413/.248	M121
PL9115	31.4	2.4	75	39	2.4	.413/.413/.248	M121
PL9116	38.4	2.2	100	47	2.2	.413/.413/.248	M121
PL9117	48.3	1.9	110	56	1.9	.413/.413/.248	M121
PL9118	55.9	1.8	120	68.0	1.8	.413/.413/.248	M121
PL9119	67.6	1.7	178	82.0	1.7	.413/.413/.248	M121
PL9120	86.1	1.4	230	100.0	1.4	.413/.413/.248	M121
PL9121	103	1.3	253	120.0	1.3	.413/.413/.248	M121
PL9122	121	1.2	280	150.0	1.2	.413/.413/.248	M121
PL9123	149	1.1	310	180.0	1.1	.413/.413/.248	M121
PL9124	186	1.0	400	220.0	1.0	.413/.413/.248	M121
PL9125	224	0.91	460	270	0.91	.413/.413/.248	M121
PL9126	279	0.82	690	330	0.82	.413/.413/.248	M121
PL9127	335	0.72	760	390	0.72	.413/.413/.248	M121
PL9128	398	0.68	850	470	0.68	.413/.413/.248	M121
PL9129	464	0.63	1060	560	0.63	.413/.413/.248	M121
PL9130	563	0.57	1200	680	0.57	.413/.413/.248	M121
PL9131	681	0.52	1550	820	0.52	.413/.413/.248	M121
PL9132	879	0.46	1750	1000	0.46	.413/.413/.248	M121
PL9201	0.95	8.7	5.7	1.0 [3]	11	.413/.413/.201	M122
PL9202	1.55	7.4	7.9	1.6 [3]	8.8	.413/.413/.201	M122
PL9203	2.32	6.6	10.0	2.7 [3]	7.3	.413/.413/.201	M122
PL9204	3.24	5.5	14.5	3.6 [3]	6.3	.413/.413/.201	M122

1. The rated *current as listed is either the saturation current or the heating current depending on which value is lower.*

2. Inductance *at 0A$_{DC}$ tolerance is ±30%. The tolerance is ±20% on all other parts.*

Optional *Tape & Reel packaging can be ordered by adding a* ***"T"*** *suffix to the end of the part number.*

***SM** = Surface Mount

continued on the next page

MILITARY/AEROSPACE PRODUCTS

OFF-THE-SHELF POWER INDUCTORS & TRANSFORMERS *(continued)*

SMT Power Inductors: Shielded Drum Core *(continued)*

Part Number	Inductance @I_{RATED} (µH TYP)	I_{RATED} [1] (A)	DCR (mΩ MAX)	Inductance @0ADC [2] (µH)	Saturation Current @25°C	Package* L/W/H (in.)	Data Sheet
PL9205	4.26	5.1	16.5	4.5 [2]	5.5	.413/.413/.201	M122
PL9206	5.64	4.4	22	6.0 [2]	4.9	.413/.413/.201	M122
PL9207	7.17	4.2	25	7.6 [2]	4.4	.413/.413/.201	M122
PL9208	9.3	3.6	35	10	4.0	.413/.413/.201	M122
PL9209	10.8	3.3	37	12	3.7	.413/.413/.201	M122
PL9210	13.4	3.0	47	15	3.4	.413/.413/.201	M122
PL9211	17.5	2.7	58	18	2.9	.413/.413/.201	M122
PL9212	19.4	2.6	67	22	2.8	.413/.413/.201	M122
PL9213	24.2	2.2	79	27	2.4	.413/.413/.201	M122
PL9214	30.6	2.1	94	33	2.2	.413/.413/.201	M122
PL9215	38.5	1.8	126	39	2.0	.413/.413/.201	M122
PL9216	46.1	1.7	140	47	1.8	.413/.413/.201	M122
PL9217	53.2	1.6	157	56	1.7	.413/.413/.201	M122
PL9218	63.1	1.45	202	68.0	1.6	.413/.413/.201	M122
PL9219	76.6	1.36	232	82.0	1.4	.413/.413/.201	M122
PL9220	88	1.29	270	100.0	1.3	.413/.413/.201	M122
PL9221	112	1.07	316	120.0	1.2	.413/.413/.201	M122
PL9222	135	1.02	456	150.0	1.05	.413/.413/.201	M122
PL9223	132	0.87	497	180.0	0.96	.413/.413/.201	M122
PL9224	198	0.82	681	220.0	0.86	.413/.413/.201	M122
PL9225	237	0.78	775	270	0.79	.413/.413/.201	M122
PL9226	296	0.66	955	330	0.71	.413/.413/.201	M122
PL9227	355	0.58	1087	390	0.66	.413/.413/.201	M122
PL9228	445	0.54	1403	470	0.59	.413/.413/.201	M122
PL9229	495	0.53	1623	560	0.54	.413/.413/.201	M122
PL9230	610	0.49	1824	680	0.49	.413/.413/.201	M122
PL9231	702	0.43	2355	820	0.45	.413/.413/.201	M122
PL9232	890	0.40	2850	1000	0.41	.413/.413/.201	M122
PL9301	0.62	7.60	5.5	0.68 ±25%	10	.410/.410/.157	M120
PL9302	1.2	7.10	7.3	1.3 ±25%	8	.410/.410/.157	M120
PL9303	1.9	5.80	10.9	2.2 ±25%	6.15	.410/.410/.157	M120
PL9304	2.8	5.20	13.3	3.3 ±25%	5.8	.410/.410/.157	M120
PL9305	4.0	4.70	19.6	4.7 ±25%	5.4	.410/.410/.157	M120
PL9306	5.4	3.70	27.0	6.0 ±25%	4.5	.410/.410/.157	M120
PL9307	6.9	3.50	30.8	7.6 ±25%	4	.410/.410/.157	M120
PL9308	8.0	3.40	33.2	10 ±20%	3.8	.410/.410/.157	M120
PL9309	11	3.00	45.2	12 ±20%	3.4	.410/.410/.157	M120
PL9310	12	2.80	49.4	15±20%	3.1	.410/.410/.157	M120
PL9311	19	2.30	77.2	22 ±20%	2.8	.410/.410/.157	M120
PL9312	25	2.10	89.1	27 ±20%	2.3	.410/.410/.157	M120
PL9313	38	1.65	141.9	47 ±20%	2.1	.410/.410/.157	M120
PL9314	55	1.32	212.0	68 ±20%	1.5	.410/.410/.157	M120
PL9315	83	1.10	327.9	100 ±20%	1.35	.410/.410/.157	M120
PL9316	123	0.88	499.9	150 ±20%	1.15	.410/.410/.157	M120
PL9317	178	0.73	738.6	220 ±20%	0.92	.410/.410/.157	M120
PL9318	278	0.60	1132.8	330 ±20%	0.7	.410/.410/.157	M120
PL9401	0.67	8.50	4.4	0.68 ±25%	8.50	.410/.410/.132	M123
PL9402	1.3	6.10	6.4	1.5 ±25%	6.10	.410/.410/.132	M123
PL9403	2.1	5.70	10.4	2.2 ±25%	5.70	.410/.410/.132	M123
PL9404	3.1	4.80	15.6	3.3 ±25%	4.80	.410/.410/.132	M123
PL9405	4.5	4.10	21.2	4.7 ±25%	4.10	.410/.410/.132	M123
PL9406	5.8	3.60	25.2	6.2 ±25%	3.60	.410/.410/.132	M123
PL9407	7.0	3.30	27.8	6.8 ±25%	3.30	.410/.410/.132	M123
PL9408	9.4	3.00	39.5	8.2 ±30%	3.00	.410/.410/.132	M123
PL9409	11	2.70	42.9	10 ±20%	2.70	.410/.410/.132	M123
PL9410	12	2.40	50.0	12 ±20%	2.40	.410/.410/.132	M123
PL9411	15	2.25	65.2	15 ±20%	2.25	.410/.410/.132	M123
PL9412	24	1.85	86.1	22 ±25%	1.85	.410/.410/.132	M123
PL9413	35	1.40	125.6	33 ±20%	1.40	.410/.410/.132	M123
PL9414	48	1.25	187.7	47 ±20%	1.25	.410/.410/.132	M123
PL9415	55	1.15	207.9	56 ±20%	1.15	.410/.410/.132	M123
PL9416	64	1.05	279.5	68 ±20%	1.05	.410/.410/.132	M123
PL9417	88	0.94	317.3	82 ±20%	0.94	.410/.410/.132	M123
PL9418	106	0.88	357.8	100 ±20%	0.88	.410/.410/.132	M123
PL9419	129	0.80	477.9	120 ±20%	0.80	.410/.410/.132	M123
PL9420	157	0.70	545.4	150 ±20%	0.70	.410/.410/.132	M123
PL9421	238	0.58	837.0	220 ±20%	0.58	.410/.410/.132	M123
PL9422	325	0.45	1198.8	330 ±20%	0.45	.410/.410/.132	M123
PL9501	2.15	2.60	17.6	2.5	2.6	.256/.256/.122	M124
PL9502	2.58	2.30	20.3	3.3	2.3	.256/.256/.122	M124
PL9503	3.43	2.10	27.0	4	2.1	.256/.256/.122	M124
PL9504	4.63	1.85	31.1	5	1.85	.256/.256/.122	M124
PL9505	5.22	1.70	41.9	6	1.7	.256/.256/.122	M124
PL9506	6.57	1.50	49.9	8	1.5	.256/.256/.122	M124
PL9507	8.65	1.30	54.0	10	1.3	.256/.256/.122	M124
PL9508	9.78	1.20	72.0	12	1.2	.256/.256/.122	M124
PL9509	12.13	1.10	82.0	15	1.1	.256/.256/.122	M124
PL9510	15.23	1.05	102.0	18	1.05	.256/.256/.122	M124
PL9511	18.7	0.95	119.0	22	0.95	.256/.256/.122	M124
PL9512	21.54	0.85	146.0	27	0.85	.256/.256/.122	M124
PL9513	27.71	0.76	183.0	33	0.76	.256/.256/.122	M124
PL9514	33.57	0.68	210.0	39	0.68	.256/.256/.122	M124
PL9515	40.15	0.60	230.0	47	0.6	.256/.256/.122	M124
PL9516	49.68	0.55	305.0	56	0.55	.256/.256/.122	M124
PL9517	60.66	0.48	351.0	68	0.48	.256/.256/.122	M124
PL9518	74.71	0.45	419.0	82	0.45	.256/.256/.122	M124
PL9519	85.39	0.40	520.0	100	0.4	.256/.256/.122	M124

1. ***The rated*** *current as listed is either the saturation current or the heating current depending on which value is lower.*

2. ***Inductance*** *at 0ADC tolerance is ±30%. The tolerance is ±20% on all other parts.*

Optional *Tape and Reel packaging can be ordered by adding a* ***"T"*** *suffix to the end of the part number.*

***SM** = Surface Mount