Product Line In Vehicle Networking (PL IVN): Transfer of A-BCD1 TJA1050 High Speed CAN Transceiver from wafer fab DHAM to ICN8 with Bill Of Material (BOM) update

Marcel Rijnsburger
Quality Manager PL IVN
NXP Semiconductors

Building FT4.131
Jonkerbosplein 52
6534 AB Nijmegen
The Netherlands

E-mail: abl.customer.service@nxp.com

Date: April 19th 2013

1. Introduction

The automotive market shows a strong demand for our newest generation Automotive ICs which are all manufactured in 8” wafer fabs. This fully matches with our industrial strategy as announced in 2008.

The demand for our mature Automotive ICs remains stronger than expected, which challenges a future in the current 6” production at the NXP wafer fab DHAM (Hamburg, Germany) for these products.

To ensure continued availability for our customers, NXP has decided to transfer the A-BCD1 TJA1050 High Speed CAN Transceiver to the NXP 8” wafer fab ICN8 (Nijmegen, the Netherlands).

2. Options to customer

NXP offers customers a full range of options to manage the transfer of the 2nd generation TJA1050 High Speed CAN Transceiver:

- Acquire stock out of DHAM of product TJA1050T/VM.
- Acquire product TJA1050T/CM out of ICN8 with Bill Of Material (BOM) updates.
- Upgrade to 3rd generation CAN Transceiver TJA1051 from wafer fab ICN8, Nijmegen, the Netherlands.
- Upgrade to an optimized feature set 3rd generation Dual Source CAN Transceiver TJA1057.

In Tables 3a and 3b on pages 4 and 5 these options are explained in more detail.

3. Changes to 2nd generation TJA1050 High Speed CAN Transceiver

This section is about the option to acquire material out of ICN8 with BOM updates. The involved changes to the 2nd generation A-BCD1 High Speed CAN packaged product TJA1050 are:

- The product will be transferred from wafer fab DHAM to ICN8. Only the ICN8 product TJA1050T/CM will get the following BOM updates:
    - Back-Side Metal (BSM) will be removed.
    - Wafercoat will be added, improving product robustness.
    - Industrial standardization to:
        - 280µm die thickness instead of 380µm.
        - 20µm AuPd bondwire instead of 25µm Au bondwire.
        - 50µm sawlanes i.s.o. 70µm sawlanes
    - The top-side marking format will be changed, enabling future improvements on product traceability.

  The DHAM product TJA1050T/VM, which is not affected by these changes, will subsequently be discontinued. Also the TJA1050U/V bare die will not be transferred and discontinued.

4. Timing

In Table 1 all relevant timings are summarized for the discontinuation of the TJA1050 products from DHAM.

Product	Discontinuation Notification (DN)	Last Time Buy (LTB) Date	Last Time Delivery (LTD) Date
TJA1050T/VM	Apr 2013	Oct 2013	Apr 2014
TJA1050U/V	Apr 2013	Oct 2013	Apr 2014

Table 1: Relevant timings for the TJA1050 products from DHAM.

5. Qualification Results

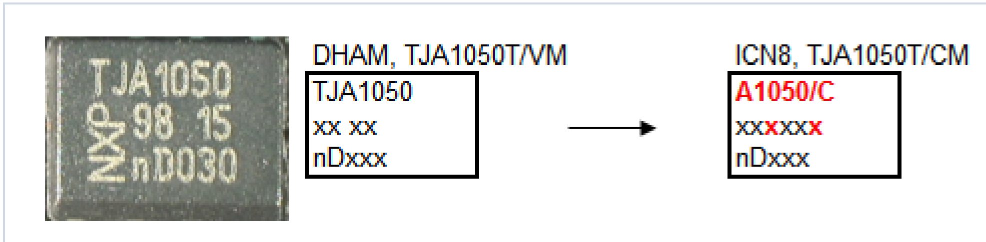
Please download the qualification results from the NXP e-PCN system you’re subscribed to, on the same tab ‘Files’ you obtained this document from.

6. Product Marking

Table 2 on page 3 shows the changes in product name and marking, applicable only to the products transferred to ICN8, TJA1050T/CM. The top-side marking format will be changed to enable future improvements on product traceability.

Table 2: Product Marking

Marking of the TJA1050 product will be changed as follows:



n = assembly site APB, Thailand. The assembly site will not change. D = Dark Green mold compound.

In addition to the change in line B marking (6 characters instead of 5, as explained above), there will be additional dashes between line B and C. The amount and position of these dashes can vary, see the 4 pictures below for examples. These are generic examples, all lines will follow the above-mentioned marking format.

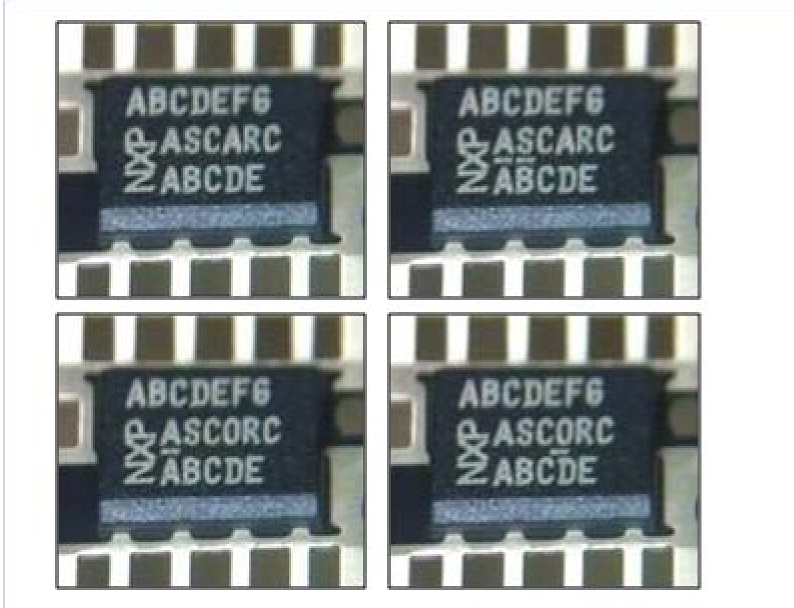


Table 3a: Options for customer: High Speed CAN product TJA1050

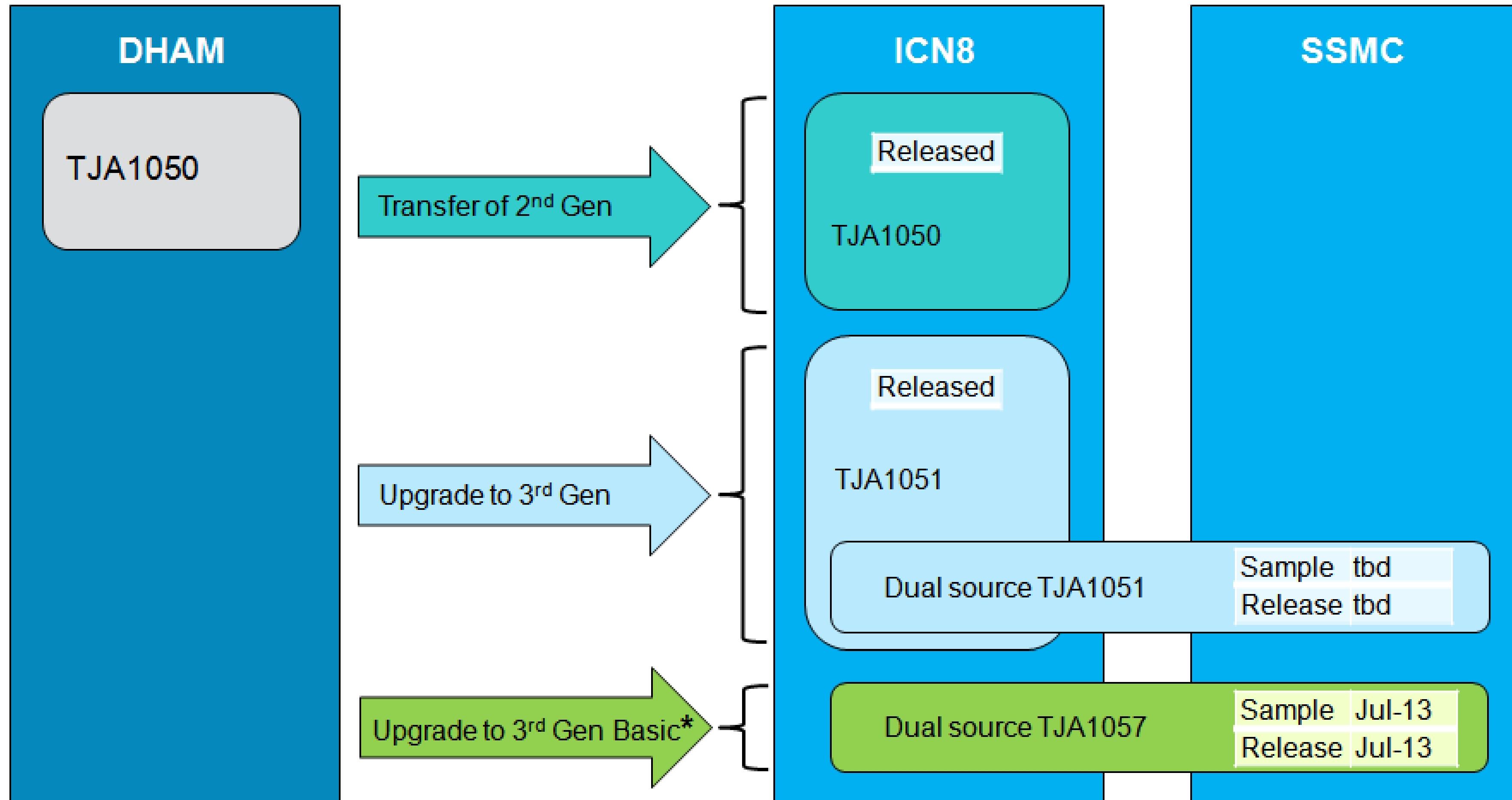


Table 3b: Options for customer: High Speed CAN product TJA1050

	Current 2nd generation	Transfer to 2nd generation	Upgrade to 3rd generation		Upgrade to 3rd gen Basic
NXP Part Number	**TJA1050T/VM**	**TJA1050T/CM**	**TJA1051T(/3)**	**TJA1051T(/3)/CM**	**TJA1057T**
Waferfab	DHAM (6" wafer fab)	ICN8 (8" waferfab)	ICN8 (8" waferfab)	ICN8 & SSMC (8" waferfab)	ICN8 & SSMC (8" waferfab)
Production Status/ Release Planned	Released	Released	Released	ICN8 Released SSMC tbd	Jul 2013
Qualified Samples	Available	Available	Available	ICN8 Available SSMC tbd	Jul 2013
Last Time Buy (LTB)	Oct 2013	-	-		-
Last Time Delivery (LTD)	Apr 2014	-	-		-
CAN/LIN generation	2	2	3		3
Pinout	All these NXP part numbers have the same SO8 package and footprint				
ESD Rating	±4kV HBM ±200V MM	±4kV HBM ±200V MM	±8kV HBM CANH/CANL pins ±4kV HBM other pins ±750V CDM corner pins ±500V CDM other pins ±300V MM all pins		±6kV HBM CANH/CANL pins ±4kV HBM other pins ±750V CDM corner pins ±500V CDM other pins ±200V MM all pins
EMC	Standard version	Standard version	Improved ElectroMagnetic Emission (EME) & Immunity (EMI)		Improved ElectroMagnetic Emission (EME) & Immunity (EMI)
MCU Interface Level	3.3V/5V (RXD 5V)	3.3V/5V (RXD 5V)	5V TJA1051T 3-5V TJA1051T/3		3.3-5V
Battery System	12V	12V	12/24V		12V
Diffusion process	A-BCD1	A-BCD1	A-BCD3		A-BCD3
MSL Level	1	1	1		1
NXP comments on different alternatives	Current 2nd generation product discontinued in DHAM	Transfer 2nd generation product with updated BOM	Current 3rd generation product	3rd generation product with updated BOM, prepared for dual-source	Optimized 12V variant of TJA1051 HS-CAN Transceivers

Remark	The NXP wafer fabs are: DHAM (6", Hamburg, Germany), ICN8 (8", Nijmegen, the Netherlands), SSMC (8", Singapore)
Remark	All these products are assembled and tested in APB (Bangkok, Thailand)

For all transfers from 2nd to 3rd generation products, please consult the products' datasheets and application notes, all of which are available via the NXP website (www.nxp.com). In case of questions or request for further support, please contact your NXP representative for assistance.