

Product Change Notification - JAON-25VHDK219

Date: 04 Feb 2016

Product Category: Supertex

Notification subject: CCB 1409.01 Final Notice - Additional Fabrication Site: Qualification of an additional fabrication site for DMOS 2.5 Supertex products

Notification text:

PCN Status:

Final notification

Microchip Parts Affected:

See attachments of affected catalog part numbers (CPN) labeled as...

PCN_JAON-25VHDK219_Affected_CPN.xls

PCN_JAON-25VHDK219_Affected_CPN.pdf

Description of Change:

Qualification of an additional fabrication site for DMOS 2.5 Supertex products.

Note: Please review attached list to identify DMOS 2.5 Supertex products.

Pre Change:

Fabricated at SPTX fab site.

Post Change:

Fabricated at Microchip FAB2 fab site.

Impacts to Data Sheet:

No

Reason for Change:

To improve productivity as part of the integration of Supertex and Microchip.

NOTE: SPTX will no longer have the ability to start additional wafers as of Q4 of CY14.

Change Implementation Status:

Complete

Estimated First Ship Date:

September 12, 2014 (date code: 1437)

NOTE: Please be advised that after the estimated first ship date customers may receive pre and post change parts.

Markings to Distinguish Revised from Unrevised Devices:

Traceability code

Revision History:

July 15, 2014: Issued initial notification as PCN number JAON-15TRYZ317.

August 14, 2014: Revised the initial notification by revising the CPN list to include all parts that are moving to FAB2, adding the note after the reason for change, and revising the customer letter to show that Supertex customers may register for Microchip's PCN email service.

September 3, 2014: Issued final notification. Attached the Qualification Report. Updated Impacts to Data Sheet from TBD to No.

April 1, 2015: Revised the qualification report.

February 4, 2016: Updated the affected parts list by removing CPN TC7920K6-G.

The change described in this PCN does not alter Microchip's current regulatory compliance regarding the material content of the applicable products.

Attachment(s):

[PCN_JAON-25VHDK219_Qual Report.pdf](#) [PCN_JAON-25VHDK219_Affected_CPn.pdf](#) [PCN_JAON-25VHDK219_Affected_CPn.xls](#)

Please contact your local [Microchip sales office](#) with questions or concerns regarding this notification.

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Affected Catalog Part Numbers (CPN)

PCN_JAON-25VHDK219
CATALOG_PART_NBR
TC2320TG-G
2N6660
2N6660-H365
2N6661
SX2N6661
2N7000-G
2N7000-G-D596
2N7002-G
2N7008-G
TD9944TG-G
TD9944TG-G-D590
TN0104N3-G
TN0104N3-G-P003
TN0104N3-G-P014
TN0104N8-G
TN0106N3-G
TN0106N3-G-P003
TN0106N3-G-P013
TN0110N3-G
TN0110N3-G-P002
TN0606N3-G
TN0610N3-G
TN0610N3-G-P003
TN0610N3-G-P013
TN0620N3-G
TN0620N3-G-D163
TN0620N3-G-P002
TN0620N3-G-P014
TN2106K1-G
TN2106N3-G
TN2124K1-G
TN2124K1-G-D545
TN2130K1-G
TN2425N8-G
TN2435N8-G
TN2501N8-G
TN2504N8-G
TN2510N8-G
TN2510N8-G-D592
TN2510NW
TN2524N8-G
TN2540N3-G
TN2540N3-G-P002
TN2540N8-G

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Affected Catalog Part Numbers (CPN)

TN2540N8-L-G
TN2640K4-G
TN2640LG-G
TN2640N3-G
TP0606N3-G
TP0606N3-G-P002
TP0606N3-G-P003
TP0604N3-G
TP0610T-G
TP0620N3-G
TP2104K1-G
TP2104N3-G
TP2104N3-G-P003
TP2104ND
TP2424N8-G
TP2435N8-G
TP2502N8-G
TP2510N8-G
TP2510ND
TP2520N8-G
TP2522N8-G
TP2535N3-G
TP2635N3-G
TP2640LG-G
TP2640N3-G
TP2640ND
VN0104N3-G
VN0104N3-G-P013
VN0106N3-G
VN0106N3-G-P003
VN0106ND
VN0109N3-G
VN0300L-G
VN0300L-G-P002
VN0606L-G
VN0606L-G-P003
VN0808L-G
VN10KN3-G
VN10KN3-G-P002
VN10KN3-G-P003
VN10KN3-G-P013
VN10KN3-G-P014
VN1206L-G
VN1206L-G-P002
VN1210N2-H212
VN1210ND-D623

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Affected Catalog Part Numbers (CPN)

VN1504ND
VN1506ND
VN1509ND
VN1509NW
VN1550NW
VN2106N3-G
VN2106ND
VN2106ND-D595
VN2106NW
VN2106NW-D619
VN2110K1-G
VN2110ND
VN2110ND-D491
VN2110NW
VN2110NW-D614
VN2210N2
VN2210N3-G
VN2222LL-G
VN2222LL-G-P003
VN2222LL-G-P013
VN2224N3-G
VN2406L-G
VN2410L-G
VN2410L-G-P013
VN2410L-G-P014
VN3205N3-G
VN3205N3-G-P002
VN3205N8-G
VN3205N8-G-D576
VN4012L-G
VN5224NW
VP0104N3-G
VP0106N3-G
VP0109N3-G
VP0550N3-G
VP0550N3-G-D559
VP0550N3-G-P013
VP0808L-G
VP1210ND-D624
VP1504ND
VP1506ND
VP2106N3-G
VP2110K1-G
VP2110K1-G-D537
VP2110ND
VP2206N2

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Affected Catalog Part Numbers (CPN)

VP2206N3-G
VP2206N3-G-P003
VP2206ND-D613
VP3203N3-G
VP3203N8-G



PCN #: JAON-25VHDK219

**Date:
March 30, 2015**

**Qualification of an additional fabrication site for DMOS 2.5
Supertex products**

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Chandler, Arizona, USA – 85224
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Test Conditions

Tests are performed in accordance with Microchip specification QCI-39000, "Worldwide Quality Conformance Requirements". The various conditions are listed below with specifics of the SuperTex specification testing.

TEST	METHOD	CONDITIONS	ACTUAL SAMPLE SIZE RUN	CRITERIA (Min Samples) (Fail /Pass)
High Temperature Operating Life	MIL-STD 750-1 Method 1042.4	150°C, 1000 Hrs Electrical Test at +25°C	100, 100, 100	0/90 per lot 3 Lots ½ for HTRB, ½ for HTGB
High Temp Reverse Bias	AEC-Q101, MIL-STD-750-1 Method M1042.1 Condition A	1000 hours at TJ(max) rating, with device biased to 100% of the rated drain-source breakdown voltage Electrical Test: +25°C	50, 50, 50	0/45 per lot Note 1
High Temp Gate Bias	AEC-Q101 MIL-STD-750-1 Method M1042.1 Condition B	1000 hours at TJ(max) rating, with device biased to 100% of maximum rated gate-source voltage Electrical Test: +25°C	50, 50, 50	0/45 per lot Note 1
ESD Human Body Model	Mil-Std 750, M1020	1.5K Ohm, 100 pF Electrical Test at +25°C, Class 0	27 / lot	By part

Actual sample size includes the Minimum requires samples + spares.

Note 1: Acceptance criteria

- a) Pass DC data sheet specifications
- b) $\Delta I_{GSS} = \pm 10\text{nA}$ DC or 100% of the initial value, whichever is greater
- c) $\Delta I_{DSS} = \pm 1\mu\text{A}$ DC or 100% of the initial value, whichever is greater
- d) $\Delta R_{DS(ON)} = \pm 10\%$ of the initial value
- e) $\Delta V_{GS(TH)} = \pm 10\%$ of the initial value
- f) $\Delta B_{VDSS} = \pm 5\%$ of the initial value

Qualification Material

Information regarding the devices that were used in this qualification is shown in the table below.

LOT	LOT 1	LOT 2	LOT 3
DEVICE	TN0610N3-G, (TN25A)	TN0620N3-G, (TN25C)	TP0620N3-G, (TP25C)
MASK, (REV)	63003, (EA)	63003, (EA)	63003, (EA)
WAFER FAB	Microchip Tempe	Microchip Tempe	Microchip Tempe
WAFER PROCESS	DMOS2.5, 8"	DMOS2.5, 8"	DMOS2.5, 8"
MSL	2007	2021	2022
WAFER LOT	TMPE 215055187.000	TMPE 215055188.000	TMPE 215065381.000
ASSEMBLY LOT	E05518701	E05518801	E06538101
PACKAGE	3L T0-92	3L T0-92	3L T0-92
ASSEMBLY SITE	Cirtek	Cirtek	Cirtek
REL TESTED	Microchip Sunnyvale	Microchip Sunnyvale	Microchip Sunnyvale
FINAL TEST	Microchip HKDC	Microchip HKDC	Microchip HKDC
QUAL #	14Qual-006	14Qual-007	14Qual-031
QUAL TESTS	HTOL-(HTRB / HTGB) / ESD	HTOL-(HTRB / HTGB) / ESD	HTOL-(HTRB / HTGB) / ESD

Die Level Results

The results of die level testing are shown below.

HIGH TEMPERATURE OPERATING LIFE TESTING @ 150 °C

	1000 Hours (Fail/Pass)
Lot 1 Total Parts	0/100
Lot 2 Total Parts	0/100
Lot 3 Total Parts	0/100

HIGH TEMPERATURE REVERSE BIAS (HTRB) @ 150 °C

	168 Hours (Fail/Pass)	500 Hours (Fail/Pass)	1,000 Hours (Fail/Pass)
Lot 1	0/50	0/50	0/50
Lot 2	0/50	0/50	0/50
Lot 3	0/50	0/50	0/50

HIGH TEMPERATURE GATE BIAS (HTGB) @ 150 °C

	168 Hours (Fail/Pass)	500 Hours (Fail/Pass)	1,000 Hours (Fail/Pass)
Lot 1	0/50	0/50	0/50
Lot 2	0/50	0/50	0/50
Lot 3	0/50	0/50	0/50

ELECTROSTATIC DISCHARGE TESTS

Human Body Model	Domain	Pass Voltage
Lot 1 & 2	Drain to Gate/Source	Up to ± 2.2kV
	Source to Drain/Gate	Up to ± 2.1kV
	Gate to Source	Up to ± 0.2kV
	Gate to Drain	Up to ± 0.2kV
	Drain to Source	Up to ± 8.0kV

Lot 3	Drain to Gate/Source	Up to ± 1.7kV
	Source to Drain/Gate	Up to ± 1.5kV
	Gate to Source	Up to ± 0.16kV
	Gate to Drain	Up to ± 0.16kV
	Drain to Source	Up to ± 8.0kV