

Product Change Notification - JAON-20ZEJE608

Date: 29 Jan 2015

Product Category: Supertex

Notification subject: CCB 1432.14 Final Notice: Qualification of all Supertex products in 3L SOT-23 package at MTAI Assembly site.

Notification text: **PCN Status:**
Final notification

Microchip Parts Affected:

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

PCN_JAON-20ZEJE608_Affected_CPN.xls

PCN_JAON-20ZEJE608_Affected_CPN.pdf

Description of Change:

Qualification of all Supertex products in 3L SOT-23 package at MTAI Assembly site.

Pre Change:

Assembled at NSEB (UTL) assembly site.

Post Change:

Assembled at MTAI and NSEB (UTL) assembly site.

Impacts to Data Sheet:

None

Reason for Change:

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

Change Implementation Status:

In Progress

Estimated First Ship Date:

February 23, 2015 (date code: 1509)

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 22, 2014: Issued initial notification.

August 07, 2014: Updated Affected CPN list.

January 29, 2015: Issued final notification. Attached the qualification report.

Updated the description and scope to include all Supertex products in 3L SOT-23 package. Revised the estimated first ship date from October 15, 2014 to February 23, 2015.

Attachment(s):

[PCN_JAON-20ZEJE608_Qual_Report.pdf](#) [PCN_JAON-20ZEJE608_Affected_CPN.pdf](#) [PCN_JAON-20ZEJE608_Affected_CPN.xls](#)

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

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PCN_JAON-20ZEJE608
CATALOG_PART_NBR
2N7002-G
DN3135K1-G
LND150K1-G
LND250K1-G
TN2106K1-G
TN2124K1-G
TN2124K1-G-D545
TN2130K1-G
TN5325K1-G
TN5335K1-G
TN5335K1-G-D589
TP0610T-G
TP2104K1-G
TP5322K1-G
TP5335K1-G
TP5335K1-G-D588
VN2110K1-G
VP2110K1-G
VP2110K1-G-D537



MICROCHIP

**QUALIFICATION REPORT
RELIABILITY LABORATORY**

PCN #: JAON-20ZEJE608

**Date
January 21, 2015**

**Qualification of all Supertex products in 3L SOT-23 package
at MTAI Assembly site**

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MICROCHIP PACKAGE QUALIFICATION REPORT

Purpose	Qualification of all Supertex products in 3L SOT-23 package at MTAI Assembly site
CN	BC141979
QUAL ID	Q14177
MP CODE	63002QC6XA00
Part No.	TN5325K1-G
Lot No.	MTAI153402875.000
Bonding No.	BDM-000675 rev A
CCB No.	1432.14

Package

Type	3L SOT-23
Die thickness	8 mils
Die size	55.90 x 29.9 mils

Lead Frame

Paddle size	64 x38 mils (ASM-Singapore)
Material	C194
Surface	Ag Spot Plated
Process	Stamped
Lead Lock	Yes
Part Number	10100301
Treatment	None

Die attach material

Epoxy (Silver paste)	TS3332LD (Tanaka-Japan)
Wire	Au wire (MKE-Korea)
Mold Compound	G600V (Sumitomo-Japan)
Plating Composition	Matte Tin



MICROCHIP PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
MTAI153402875.000	TMPE215065380.210	14478P8

Result

Pass Fail _____

3L SOT-23 assembled by MTAI pass reliability test per Supertex standard qual plan for SMD Package. This package was qualified the Moisture/Reflow Sensitivity Classification Level 1 at 260°C reflow temperature per IPC/JEDEC J-STD-020D standard.

Note: Risk release qual report due to THB is on going

Prepared By: Wittawat P Date: January 21, 2015 (Reliability Engineer)

(Mr. Wittawat Premniwat)

Approved By: Somnuek Date: January 21, 2015 (Reliability Manager)

(Mr. Somnuek Thongprasert)

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard / Method	Qty. (Acc.)	Def/SS	Result	Remarks
Moisture/Reflow Sensitivity Classification Test (At MSL Level 1)	85°C/ 85%RH Moisture Soak 168 hrs. System: TABAI ESPEC Model PR-3SPH 3x Convection-Reflow 265°C max System: Vitronics Soltec MR1243 (IPC/JEDEC J-STD-020D)	IPC/JED EC J- STD- 020D	25	0/25	Pass	

Precondition Prior Perform Reliability Tests (At MSL Level 1)	Bake 150°C, 24 hrs System: CHINEE			250		
	85°C/85%RH Moisture Soak 168 hrs. System: TABAI ESPEC Model PR-3SPH			250		
	3x Convection-Reflow 265°C max System: Vitronics Soltec MR1243			250		
	Electrical Test : Post test Supertex Hongkong			0/250	Pass	

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS	Result	Remarks
TEST 1: ASSEMBLY PROCESS CHARACTERIZATION						
1a. Die Shear	Die Shear (Minimum: 2.5 kgf)	MIL-STD-883J-M2019.8	5 (0)	0/5	Pass	
1b. Bond Shear	Bond Shear (Minimum: 18.00 grams)	JESD22-B116A	30 (0) Wires	0/30	Pass	
1c. Wire Bond Pull	Wire Pull (Minimum: 4.0 grams)	MIL-STD-883J-M2011.9 Condition C or D	30 (0) Wires	0/30	Pass	
1d.X-ray	N/A	X-Ray			Pass	
1e. Terminal Plating Thickness	N/A	XRF or else	5(0)	0/5 Units	Pass	
1f. Terminal Plating /Solder	N/A	RF,RoHS report or else	5(0)	0/5 Units	Pass	
TEST 2: FINAL TEST						
Post-Assembly Final Test Yield	Per device spec Electrical Test: Supertex HK	Per device spec >85% test yield	1000 (0)	45/955	Pass	Test Location: Supertex Hongkong

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
TEST 3: PACKAGE INTEGRITY AND MECHANICAL TEST						
3a. Visual Examination	Stress Condition: Supertex spec#QCGP-1001	Supertex spec#QCG P-1001	315(0)	0/315	Pass	Test Location: Supertex Hongkong
3b. Physical Dimension	Stress Condition: Post Assembly	JESD22-B100B	8(0)	0/8	Pass	Test Location: Supertex Hongkong
3c. Solderability (Tin-alloy)	Stress Condition: 1) Condition C (Tin-alloy):8 hrs. Steam age; 2) Test Method 1:Dip&Look Test; Group 1:Test to SnPb solder (215+/-5 C); Group 2:Test to Pb-free solder (245+/-5C);	JESD22-B102E	8(0) 8(0)	0/8 0/8	Pass Pass	Test Location: Supertex Hongkong

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
TEST 4: PACKAGE INTEGRITY AND MECHANICAL TEST						
4a. Precondition Prior Perform Reliability Tests (At MSL Level 1)	Stress Condition: -Bake 150°C, 24 hrs System: CHINEE -85°C/85%RH Moisture Soak 168 hrs. System: TABAI ESPEC Model PR-3SPH -3x Convection-Reflow 265°C max System: Vitronics Soltec MR1243 Electrical Test: Post test at Supertex HK	JESD22-A113F	250(0)	0/250	Pass	Test Location: Reliability MTAI
4b. Auto Clave	Stress Condition: 1) for SMD,MSL pre-conditioned prior to test 2) 121C/100%RH / 15PSIG / 168 hrs Electrical Test: Post test at Supertex HK	JESD22-A102D	45 (0)	0/45	Pass	Test Location: Supertex Hongkong
4c. Thermal Shock	Stress Condition: 1) for SMD,MSL pre-conditioned prior to test 2) Cond B:-55 to 125C / 200 cyc Electrical Test: Post test at Supertex HK	MIL-STD-883HM1011.9	50(0)	0/50	Pass	Test Location: MMT
4d. Temperature Cycling	Stress Condition: 1) for SMD,MSL pre-conditioned prior to test 2) Cond C:-65 to 150C / 500 cyc Electrical Test: Post test at Supertex HK	MIL-STD-883HM1010.8	50(0)	0/50	Pass	Test Location: Reliability MTAI
4e. Temperature Humidity Bias (THB)	Stress Condition: 1) for SMD,MSL pre-conditioned prior to test 2) biased @ 85C / 85%RH for 168 / 500 1000 hrs Electrical Test: Post test at Supertex HK	JESD22-A101C	45(0)	-	On going	Test Location: Supertex Sunnyvale USA