Product Change Notification - JAON-19QMXF371

Date: 17 Feb 2015

Notification subject: CCB 1432.01 Final Notice: Qualification of Supertex products in 8L SOIC Dual DAP and 8L SOIC Single DAP package at MMT assembly.

Notification text:

PCN Status:
Final notification

Microchip Parts Affected:
See attachments of affected catalog part numbers (CPN) labeled as…
PCN_JAON-19QMXF371_Affected_CPN.xls
PCN_JAON-19QMXF371_Affected_CPN.pdf

Description of Change:
Qualification of Supertex products in 8L SOIC Dual DAP and 8L SOIC Single DAP package at MMT assembly.

Pre Change:
Assembled at CARM

Post Change:
Assembled at MMT or CARM

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:
March 9, 2015 (date code: 1511)

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.
February 17, 2015: Issued final notification. Attached the qualification report. Updated the subject and description to include 8L SOIC Single DAP package in the scope. Revised the estimated first ship date from October 20, 2014 to March 9, 2015.

Attachment(s):
PCN_JAON-19QMXF371_Qual Report.pdf
PCN_JAON-19QMXF371_Affected_CPN.pdf
PCN_JAON-19QMXF371_Affected_CPN.xls

Please contact your local Microchip sales office with questions or concerns regarding this notification.

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QUALIFICATION REPORT
RELIABILITY LABORATORY

PCN #: JAON-19QMXF371

Date
February 05, 2015

Qualification of Supertex products in 8L SOIC Dual DAP and 8L SOIC Single DAP package at MMT assembly.

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PACKAGE QUALIFICATION REPORT

Purpose	Qualification of Supertex products in 8L SOIC Dual DAP and 8L SOIC Single DAP package at MMT assembly.
CN	BC141963
QUAL ID	Q14188
MP CODE	63001Q4CXA00
Part No.	TC6320TG-G
Lot No.	MMT-153400584.000
Bonding No.	BDM-000673 Rev. A
CCB No.	1432.01

Package

Type	8L SOIC
Package size	150 mils
Die thickness	**TPC Die:** 11 mils
	TNC Die: 11 mils
Die size	**TPC Die:** 55.10 x 55.10 mils
	TNC Die: 55.10 x 55.10 mils

Lead Frame

Paddle size	77 x 105 mils Dual DAP (ASM-Singapore)
Material	A194
Surface	Bare Cu
Process	Etched
Lead Lock	No
Part Number	10100813
Treatment	None

Die attach material

Epoxy (Silver paste)	8060T (Henkel-USA)
Wire	Au wire (MKE-Korea)
Mold Compound	G600V (Sumitomo-Japan)
Plating Composition	Matte Tin

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PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
MMT-153400584.000	TMPE215024567.100	1447JQ9
	TMPE215014304.211	

Result [X] Pass [ ] Fail [ ] _____

8L SOIC (.150") assembled by MMT 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: _____ **Date:** February 05, 2015 **(Reliability Engineer)**

(Mr.Wittawat Premniwat)

Approved By: _____ **Date:** February 05, 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/JEDEC J-STD-020D	25	0/25	Pass	
<u>Precondition Prior Perform Reliability Tests</u> (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			250		
	System: Vitronics Soltec MR1243					
	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 0/5	Pass	
11a. D/A Bondline Thicknes	Epoxy Cured BLT (Dry) Control 0.6~0.9 mil	Per assembly site Specs	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	2 (0)	0/2	Pass	
1e. Terminal Plating Thickness	N/A	XRF or else	5 (0)	0/5 Units	Pass	
1f. Terminal Plating /Solder Ball Material	N/A	XRF,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	4/996	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#QCGP-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 (for Engineering Info only) Electrical Test: Post test at Supertex HK	JESD22-A101C	45(0)	-	On going	Test Location: Supertex Sunnyvale USA

PCN_JAON-19QMXF371
CATALOG_PART_NBR
TC1550TG-G
TC2320TG-G
TC6215TG-G
TC6320TG-G
TC6320TG-G-D607
TC6320TG-G-D626
TD9944TG-G
TD9944TG-G-D590
TN2640LG-G
TP2640LG-G