Product Change Notification - KSRA-07JMKW160

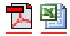
Date:

27 Mar 2019

Product Category:

8-bit Microcontrollers; 16-Bit - Microcontrollers and Digital Signal Controllers; 32-bit Microcontrollers

Affected CPNs:



Notification subject:

CCB 3499 and 3499.001 Final Notice: Qualification of MMT as an additional assembly site for selected products of 0.25um, 0.18um, 90nm TSMC, 160K and 200K wafer technologies available in 64L TQFP (14x14x1mm) and 100L TQFP (14x14x1mm) packages.

Notification text:

PCN Status:

Final notification

PCN Type:

Manufacturing Change

Microchip Parts Affected:

Please open one of the icons found in the Affected CPNs section above.

NOTE: For your convenience Microchip includes identical files in two formats (.pdf and .xls).

Description of Change:

Qualification of MMT as an additional assembly site for selected products of 0.25um, 0.18um, 90nm TSMC, 160K and 200K wafer technologies available in 64L TQFP (14x14x1mm) and 100L TQFP (14x14x1mm) packages.

Pre Change:

Assembled at ASAC using gold (Au) bond wire, 2200 die attach, G700 molding compound and C7025 lead frame material. Assembled at ANAP using gold (Au) bond wire, 3230 or AP4200 die attach, G700 or G631HQ molding compound and C194 lead frame material. Assembled at ASE using palladium coated copper (PdCu) bond wire, 1076WA die attach, G631H molding compound and C7025 lead frame material.

Post Change:

Assembled at ASAC using gold (Au) bond wire, 2200 die attach, G700 molding compound and C7025 lead frame material. Assembled at ANAP using gold (Au) bond wire, 3230 or AP4200 die attach, G700 or G631HQ molding compound and C194 lead frame material. Assembled at ASE using palladium coated copper (PdCu) bond wire, 1076WA die attach, G631H molding compound and C7025 lead frame material. Assembled at MMT using gold (Au) bond wire, 3280 die attach, G700 molding compound and C7025 lead frame material.

Pre and Post Change Summary:

	Pre Change			Post Change			
Assembly Site	UTAC Dongguan Ltd (P1) / ASAC	Amkor Technology Philippine (P1/P2), INC. / ANAP	ASE Inc. / ASE	UTAC Dongguan Ltd (P1) / ASAC	Amkor Technology Philippine (P1/P2), INC. / ANAP	ASE Inc. / ASE	Microchip Technology Thailand (Branch) / MMT
Wire	Au	Au	PdCu	Au	Au	PdCu	Au

material									
Die attach material	2200	3230	AP4200	1076WA	2200	3230	AP4200	1076WA	3280
Molding compound material	G700	G700	G631HQ	G631H	G700	G700	G631HQ	G631H	G700
Lead frame material	C7025	C194		C7025	C7025	C194		C7025	C7025
MSL	L3/260C	L3/260C		L3/260C	L3/260C	L3/260C		L3/260C	L3/260C

Impacts to Data Sheet:
None
Change Impact:
None
Reason for Change:
To improve on-time delivery performance by qualifying MMT as a new assembly site.
Change Implementation Status:
In Progress
Estimated First Ship Date:
For 100L TQFP package: January 11, 2019 (date code: 1902)
For 64L TQFP package: March 30, 2019 (date code: 1913)
NOTE: Please be advised that after the estimated first ship date customers may receive pre and post change parts.
Time Table Summary:

	August 2018					->	December 2018				January 2019					->	March 2019			
Workweek	31	32	33	34	35		49	50	51	52	01	02	03	04	05		10	11	12	13
Initial PCN Issue Date		X																		
Qual Report Availability							X													
Final PCN Issue Date							X													
Estimated Implementation Date												X								X*

***For 64L TQFP package**
Method to Identify Change:
Traceability code
Qualification Report:
Please open the attachments included with this PCN labeled as PCN_#_Qual_Report.
Revision History:
August 09, 2018: Issued initial notification.
December 11, 2018: Issued final notification. Attached is the qualification report. Added estimated first ship date by January 11, 2019.
March 8, 2019: Re-issued final notification to update the subject and description because of the update in scope to include products of 0.25um TSMC and 160K wafer technologies available in 64L TQFP package. Updated the affected CPN list in accordance with the update to the scope. Updated the pre and post change summary table MSL classification for MMT site from MSL 1 and 2 to MSL 3. Updated the pre and post change to add AP4200 die attach material and G631HQ mold compound

material for ANAP assembly site which is applicable for 64L TQFP package.
March 27, 2019: Corrected the estimated first ship date year for 100L TQFP from 2018 to 2019.
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_KSRA-07JMKW160_Qual Report.pdf

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If you wish to change your PCN profile, including opt out, please go to the PCN home page select login and sign into your myMicrochip account. Select a profile option from the left navigation bar and make the applicable selections.

Affected Catalog Part Numbers (CPN)

PIC32MZ2048ECM100-I/PF
PIC32MZ2048ECM100T-I/PF
PIC32MZ2048EFG100-E/PF
PIC32MZ2048EFG100-I/PF
PIC32MZ2048EFG100T-E/PF
PIC32MZ2048EFG100T-I/PF
PIC32MZ2048EFH100-250I/PF
PIC32MZ2048EFH100-E/PF
PIC32MZ2048EFH100-I/PF
PIC32MZ2048EFH100-I/PFM21
PIC32MZ2048EFH100T-250I/PF
PIC32MZ2048EFH100T-E/PF
PIC32MZ2048EFH100T-I/PF
PIC32MZ2048EFM100-E/PF
PIC32MZ2048EFM100-I/PF
PIC32MZ2048EFM100T-E/PF
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DSPIC33EP128GM710T-I/PF
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DSPIC33EP256GM710-E/PF
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PIC32MZ2048ECH100T-I/PF

MICROCHIP

QUALIFICATION REPORT SUMMARY

RELIABILITY LABORATORY

PCN # : KSRA-07JMKW160

Date:

December 21,2018

Qualification of MMT as an additional assembly site for selected products of 0.25um, 0.18um, 90nm TSMC and 200K wafer technologies available in 100L TQFP (14x14x1mm) package. The selected products of 0.25um TSMC and 160K wafer technologies available in 64L TQFP (14x14x1mm) package will qualify by similarity (QBS).

PACKAGE QUALIFICATION REPORT

Purpose	Qualification of MMT as an additional assembly site for selected products of 0.25um, 0.18um, 90nm TSMC and 200K wafer technologies available in 100L TQFP (14x14x1mm) package. The selected products of 0.25um TSMC and 160K wafer technologies available in 64L TQFP (14x14x1mm) package will qualify by similarity (QBS).
CN	ES244611
QUAL ID	Q18174
MP CODE	TDAA17E5XCC8
Part No.	PIC32MX575F512L-80I/PF
Bonding No.	BDM-001879 Rev. C
CCB No.	3499 and 3499.001
Package	
Type	100L TQFP
Package size	14x14x1.0 mm
Die thickness	11 mils
Die size	225.8 x 219.5 mils
Lead Frame	
Paddle size	280 x 280 mils
Material	C7025
Surface	Bare Cu
Process	Etched
Lead Lock	No
Part Number	10110005
Treatment	BOT
Material	
Epoxy	3280
Wire	Au wire
Mold Compound	G700HA
Plating Composition	Matte Tin

PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer No.	Date Code
MMT-192601502.000	TC03919192257.110	18394HC
MMT-192701494.000	TC03919192257.110	18404JS
MMT-192701847.000	TC03919192257.110	1840AS0

Result [X] Pass [ ] Fail [ ] ____________________

100L TQFP 14x14 mm assembled by MMT pass reliability test per QCI-39000.This package was qualified the Moisture/Reflow Sensitivity Classification Level 3 at 260°C reflow temperature per IPC/JEDEC J-STD-020E standard.

PACKAGE QUALIFICATION REPORT						
Test Number (Reference)	**Test Condition**	**Standard / Method**	**Qty. (Acc.)**	**Def/SS**	**Result**	**Remarks**
Moisture/Reflow Sensitivity Classification Test (At MSL Level 3)	30°C/ 60%RH Moisture Soak 192 hrs. System: TABAI ESPEC Model PR-3SPH 3x Convection-Reflow 265°C max System: Vitronics Soltec MR1243 (IPC/JEDEC J-STD-020E)	IPC/JEDEC J-STD-020E	135	0/135	Pass	
Precondition Prior Perform Reliability Tests (At MSL Level 3)	**Electrical Test :**+25°C and 85°C System: J750 Bake 150°C, 24 hrs System: CHINEE 30°C/60%RH Moisture Soak 192 hrs. System: TABAI ESPEC Model PR-3SPH 3x Convection-Reflow 265°C max System: Vitronics Soltec MR1243 **Electrical Test :**+25°C and 85°C System: J750	JESD22-A113	693(0)	693 693 693 693 0/693	Pass	Good Devices
Temp Cycle	**Stress Condition:** -65°C to +150°C, 500 Cycles System : TABAI ESPEC TSA-70H **Electrical Test:** + 85°C System: J750	JESD22-A104	231(0)	231 0/231	Pass	Parts had been pre-conditioned at 260°C 77 units / lot
UNBIASED-HAST	**Stress Condition:** +130°C/85%RH, 96 hrs. System: HAST 6000X **Electrical Test:** +25°C System: J750	JESD22-A118	231(0)	231 0/231	Pass	Parts had been pre-conditioned at 260°C 77 units / lot
HAST	**Stress Condition:** +130°C/85%RH, 96 hrs. **Bias Volt:** 2.0 Volts System: HAST 6000X **Electrical Test:**+25°C and 85°C System: J750	JESD22-A110	231(0)	231 0/231	Pass	Parts had been pre-conditioned at 260°C 77 units / lot

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
High Temperature Storage Life	**Stress Condition:** Bake 175°C, 504 hrs System: SHEL LAB **Electrical Test :**+25°C and 125°C System: J750	JESD22-A103	45(0)	45 0/45	Pass	45 units
Solderability **Temp 215°C**	**Steam Aging:** Temp 93°C,8Hrs System: SAS-3000 Solder Dipping: Solder Temp.215°C Solder material: SnPb Sn63,Pb37 System: ERSA RA 2200D Visual Inspection: External Visual Inspection	J-STD-002	22 (0)	22 22 0/22	Pass	
Bond Strength	Wire Pull (> 2.5 grams)	M2011	30 (0) Wires	0/30	Pass	
Data Assembly	Bond Shear (>15.00 grams)	JESD22-B116	30 (0) bonds	0/30	Pass	