Product Change Notification - GBNG-28HRUQ041

Date:
19 Oct 2017
Product Category:
Power Management - System Supervisors/Voltage Detectors; Voltage References
Notification subject:
CCB 2840 Final Notice: Qualification of JCET as an additional assembly site for selected products of the 120K wafer technology available in 3L SOT-23 package using CuPdAu bond wire.
Notification text:
PCN Status:
Final notification.

Microchip Parts Affected:
Please open the attachments found in the attachments field below labeled as PCN_#_Affected_CPN.

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

Description of Change:
Qualification of JCET as an additional assembly site for selected products of the 120K wafer technology available in 3L SOT-23 package using palladium coated copper with gold flash (CuPdAu) bond wire.

Pre Change:
Assembled at MTAI, ATES, NSEB or UNIS using gold (Au) bond wire and G600 molding compound material

Post Change:
Assembled at MTAI, ATES, NSEB and UNIS using gold (Au) bond wire and G600 molding compound material or assembled at JCET using palladium coated copper with gold flash (CuPdAu) bond wire and ELER-8-100HFE molding compound material.

Pre and Post Change Summary:

	Pre Change	Post Change

Assembly Site	Microchip Technology Thailand (MTAI)	Millennium Microtech (Shanghai) CO., LTD (ATES)	UTAC Thai Limited (UTL-1) LTD. (NSEB)	Unisem (M) Berhad Perak, Malaysia (UNIS)	Microchip Technology Thailand (MTAI)	Millennium Microtech (Shanghai) CO., LTD (ATES)	UTAC Thai Limited (UTL-1) LTD. (NSEB)	Unisem (M) Berhad Perak, Malaysia (UNIS)	*Jiangsu Changjiang Electronics Technology Co.,Ltd (JCET)*
Paddle size	64x38	64x38	72x40	57x35	64x38	64x38	72x40	57x35	*75x42*
Lead frame material	CDA194	CDA194	CDA194	CDA194	CDA194	CDA194	CDA194	CDA194	*CDA194*
Wire material	Au	Au	Au	Au	Au	Au	Au	Au	*CuPdAu*
Die attach material	8390A	84-1 LMISR4	84-1 LMISR4	84-1 LMISR4	8390A	84-1 LMISR4	84-1 LMISR4	84-1 LMISR4	*84-1 LMISR4*
Mold compound material	G600	G600	G600	G600	G600	G600	G600	G600	*ELER-8-100HFE*

Impacts to Data Sheet:
None

Change Impact:
None

Reason for Change:
To improve productivity by qualifying JCET as an additional assembly site.

Change Implementation Status:
In Progress

Estimated First Ship Date:
November 19, 2017 (date code: 1747)

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

Time Table Summary:

	April 2017				-->	October 2017					November 2017			
Workweek	14	15	16	17		40	41	42	43	44	45	46	47	48
Initial PCN Issue Date		X												
Qual Report Availability								X						
Final PCN Issue Date								X						
Estimated Implementation Date													X	

Qualification Report:Method to Identify Change:
Traceability code

Please open the attachments included with this PCN labeled as PCN_#_Qual Report.

Revision History:
April 12, 2017: Issued initial notification.
October 19, 2017: Issued final notification. Attached the Qualification Report. Provided estimated first ship date on November 19, 2017.

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_GBNG-28HRUQ041_Affected CPN.pdf
PCN_GBNG-28HRUQ041_Qual Report.pdf
PCN_GBNG-28HRUQ041_Affected CPN.xlsx

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

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Affected Catalog Part Numbers (CPN)

PCN_GBNG-28HRUQ041
CATALOG_PART_NBR
MCP100T-270I/TT
MCP100T-270I/TTAAA
MCP100T-300I/TT
MCP100T-315I/TT
MCP100T-450I/TT
MCP100T-460I/TT
MCP100T-475I/TT
MCP100T-485I/TT
MCP101T-270I/TT
MCP101T-300I/TT
MCP101T-315I/TT
MCP101T-450I/TT
MCP101T-460I/TT
MCP101T-475I/TT
MCP101T-485I/TT
MCP102T-195I/TT
MCP102T-195I/TTV01
MCP102T-240E/TT
MCP102T-270E/TT
MCP102T-300E/TT
MCP102T-315E/TT
MCP102T-450E/TT
MCP102T-475E/TT
MCP120T-270I/TT
MCP120T-300I/TT
MCP120T-315I/TT
MCP120T-450I/TT
MCP120T-450I/TTS01
MCP120T-460I/TT
MCP120T-475I/TT
MCP120T-485I/TT
MCP121T-195I/TT
MCP121T-240E/TT
MCP121T-270E/TT
MCP121T-300E/TT
MCP121T-315E/TT
MCP121T-315E/TTAAA
MCP121T-416E/TT
MCP121T-450E/TT
MCP121T-475E/TT
MCP130T-270I/TT
MCP130T-300I/TT
MCP130T-315I/TT

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Affected Catalog Part Numbers (CPN)

MCP130T-450I/TT
MCP130T-450I/TTV02
MCP130T-460I/TT
MCP130T-475I/TT
MCP130T-485I/TT
MCP131T-195I/TT
MCP131T-240E/TT
MCP131T-250E/TT
MCP131T-270E/TT
MCP131T-300E/TT
MCP131T-315E/TT
MCP131T-450E/TT
MCP131T-475E/TT
MCP1525T-I/TT
MCP1541T-I/TT

QUALIFICATION REPORT SUMMARY

RELIABILITY LABORATORY

PCN#: GBNG-28HRUQ041

Date
September 22, 2017

Qualification of JCET as an additional assembly site for selected products of the 120K wafer technology available in 3L SOT-23 package using palladium coated copper with gold flash (CuPdAu) bond wire.

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PACKAGE QUALIFICATION REPORT

Purpose	Qualification of JCET as an additional assembly site for selected products of the 120K wafer technology available in 3L SOT-23 package using palladium coated copper with gold flash (CuPdAu) bond wire.
CN	ES106274
QUAL ID	Q17124
MP CODE	A7BQ1TC6XA00
Part No.	MCP1525T-I/TT
Bonding No.	BDM-001277 Rev. B
CCB No.	2840
Package	
Type	3L SOT23
Die thickness	8 mils
Die size	47.40 x 25.00 mils
Lead Frame	
Paddle size	75 x 42 mils
Material	A194
Surface	Spot Ag
Process	Stamped
Lead Lock	No
Treatment	None
Material	
Epoxy	84-1 LMISR4
Wire	CuPdAu wire
Mold Compound	ELER-8-100HFE
Plating Composition	Matte Tin

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PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
JCET175200002.000	TMPE217387077.100	1712GU3
JCET175300001.000	TMPE217387077.100	1713GV8
JCET175300002.000	TMPE217387077.100	1713GWP

Result [X] Pass [ ] Fail [ ] _____

3L SOT23 assembled by JCET pass reliability test per QCI-39000.This package was qualified the Moisture/Reflow Sensitivity Classification Level 1 at 260°C reflow temperature per IPC/JEDEC J-STD-020D 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 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	135	0/135	Pass	
<u>Precondition Prior Perform Reliability Tests</u> (At MSL Level 1)	**Electrical Test :**+25°C System: ETS88 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 :**+25°C System: ETS88	JESD22-A113	693(0)	693 693 693 693 0/693	Pass	Good Devices
Temp Cycle	**Stress Condition:** (Standard) -65°C to +150°C, 500 Cycles System : TABAI ESPEC TSA-70H **Electrical Test:** + 25°C System: ETS88	JESD22-A104	231(0)	231 0/231	Pass	Parts had been pre-conditioned at 260°C 77 units / lot
UNBIASED-HAST	**Stress Condition:** (Standard) +130°C/85%RH, 96 hrs. System: HAST 6000X **Electrical Test:** +25°C System: ETS88	JESD22-A118	231(0)	231 0/231	Pass	Parts had been pre-conditioned at 260°C 77 units / lot
HAST	**Stress Condition:** (Standard) +130°C/85%RH, 96 hrs. **Bias Volt:** 5.5 Volts System: HAST 6000X **Electrical Test:**+ 25°C System: ETS88	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 System: ETS88	JESD22-A103	 45(0)	45 0/45	 Pass	45 units
Solderability **Temp 245°C**	**Steam Aging:** Temp 93°C,8Hrs System: SAS-3000 Solder Dipping:Solder Temp.245°C Solder material:Pb Free Sn 95.5Ag3.9 Cu0.6 System: ERSA RA 2200D Visual Inspection: External Visual Inspection	JESD22B-102E	22 (0)	22 22 0/22	 Pass	
Physical **Dimensions**	Physical Dimension, 30 units from 1 lot	JESD22-B100/B108	30(0) Units	0/30	Pass	
Bond Strength **Data Assembly**	Wire Pull (> 4.0 grams) Bond Shear (>20.00 grams)	M2011 JESD22-B116	30 (0) Wires 30 (0) bonds	0/30 0/30	Pass Pass	