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Product Change Notification - RMES-28HUEN707 (Printer Friendly)

Date: 23 Nov 2017

Product Category: Linear Regulators

Notification subject: CCB 2883 Final Notice: Qualification of JCET as an additional assembly site for selected products of 135K DLM wafer technology available in 3L SOT-23A package using CuPdAu bond wire.

Notification text:

PCN Status:
Final notification

PCN Type:
Manufacturing Change

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 135K DLM wafer technology available in 3L SOT-23A package using palladium coated copper with gold flash (CuPdAu) bond wire.

Pre Change:

Assembled at HANA and LPI using gold (Au) bond wire and G600 molding compound material.

Post Change:

Assembled at HANA and LPI using gold (Au) bond wire and G600 molding compound material.

Assembled at JCET using palladium coated copper with gold flash (CuPdAu) bond wire and EMG 600-2 molding compound material.

Pre and Post Change Summary:

	Pre Change		Post Change	

Assembly Site	Hana Semiconductor CO., LTD. (HANA)	Lingsen Precision Industries, LTD.(LPI)	Hana Semiconductor CO., LTD. (HANA)	Lingsen Precision Industries, LTD.(LPI)	
Wire material	Au wire	Au wire	Au wire	Au wire	
Die attach material	8006NS	84-3J	8006NS	84-3J	
Molding compound material	G600	G600	G600	G600	
Lead frame material	A194	EFTEC64T	A194	EFTEC64T	

Impacts to Data Sheet:
None

Change Impact:
None

Reason for Change:
To improve productivity by qualifying palladium coated copper with gold flash (CuPdAu) bond wire at JCET assembly site.

Change Implementation Status:
In Progress

Estimated First Ship Date:

December 23, 2017(datecode: 1751)

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

Time Table Summary:

	March 2017					-->	**November 2017**					**December 2017**			
Workweek	09	10	11	12	13		44	45	46	47	48	49	50	51	52
Initial PCN Issue Date					X										
Qual Report Availability										X					

Final PCN Issue Date										X					
Estimated Implementation Date														X	

Method to Identify Change:
Traceability code

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

Revision History:
April 04, 2017: Issued initial notification.
April 05, 2017: Corrected typographical error on the revision history from March to April.
November 23, 2017: Issued final notification. Attached the Qualification Report. Removed CCB 2882. Revised the affected parts list. Provided estimated first ship date on December 23, 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_RMES-28HUEN707_Affected_CPN.pdf
PCN_RMES-28HUEN707_Qual Report.pdf
PCN_RMES-28HUEN707_Affected_CPN.xlsx

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QUALIFICATION REPORT SUMMARY

RELIABILITY LABORATORY

PCN#: RMES-28HUEN707

Date
September 27, 2017

Qualification of JCET as an additional assembly site for selected products of 135K DLM wafer technology available in 3L SOT-23A 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 135K DLM wafer technology available in 3L SOT-23A package using palladium coated copper with gold flash (CuPdAu) bond wire.
CN	ES106143
QUAL ID	Q17102
MP CODE	HBAF1YM7XA33
Part No.	MCP1703AT-3302E/CB
Bonding No.	BDM-001304
CCB No.	2883
Package	
Type	3L SOT-23A
Die thickness	8 mils
Die size	46.50 x 41.50 mils
Lead Frame	
Paddle size	51 x 72 mils
Material	A194
Surface	Spot Ag
Process	Stamped
Lead Lock	No
Part Number	111012500016C2-141
Treatment	None
Material	
Epoxy	8006NS (screen print) Non-conductive
Wire	CuPdAu wire
Mold Compound	EMG-600-2
Plating Composition	Matte Tin

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PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
JCET175200004.000	TMPE217346455.440	1712H1E
JCET175300005.000	TMPE217346455.440	1713H1P
JCET175300006.000	TMPE217346455.440	1713H24

Result [X] Pass [ ] Fail [ ] _____

3L SOT-23A 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	JESD22-A113	693(0)	693		Good Devices
	Bake 150°C, 24 hrs System: CHINEE			693		
	85°C/85%RH Moisture Soak 168 hrs. System: TABAI ESPEC Model PR-3SPH			693		
	3x Convection-Reflow 265°C max			693		
	System: Vitronics Soltec MR1243					
	Electrical Test :+25°C System: ETS88			0/693	Pass	
Temp Cycle	**Stress Condition:** (Standard) -65°C to +150°C, 500 Cycles System : TABAI ESPEC TSA-70H	JESD22-A104		231		Parts had been pre-conditioned at 260°C
	Electrical Test: + 25°C System: ETS88		231(0)	0/231	Pass	77 units / lot
	Electrical Test: +25°C System: ETS88		231(0)	0/231	Pass	
UNBIASED-HAST	**Stress Condition:** (Standard) +130°C/85%RH, 96 hrs. System: HAST 6000X	JESD22-A118		231		Parts had been pre-conditioned at 260°C
	Electrical Test: +25°C System: ETS88		231(0)	0/231	Pass	77 units / lot

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
HAST	**Stress Condition:** (Standard) +130°C/85%RH,96 hrs. **Bias Volt:** 16.0 Volts System: HAST 6000X	JESD22-A110		231		Parts had been pre-conditioned at 260°C
	Electrical Test:+ 25°C System: ETS88		231(0)	0/231	Pass	77 units / lot
High Temperature Storage Life	**Stress Condition:** Bake 175°C, 504 hrs System: SHEL LAB	JESD22-A103		45		45 units
	Electrical Test :+25°C System: ETS88		45(0)	0/45	Pass	
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)	M2011	30 (0) Wires	0/30	Pass	
	Bond Shear (>24.00 grams)	JESD22-B116	30 (0) bonds	0/30	Pass	

QUALIFICATION REPORT SUMMARY

RELIABILITY LABORATORY

PCN#: RMES-28HUEN707

Date
September 27, 2017

Qualification of JCET as an additional assembly site for selected products of 135K DLM wafer technology available in 3L SOT-23A 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 135K DLM wafer technology available in 3L SOT-23A package using palladium coated copper with gold flash (CuPdAu) bond wire.
CN	ES106143
QUAL ID	Q17102
MP CODE	HBAF1YM7XA33
Part No.	MCP1703AT-3302E/CB
Bonding No.	BDM-001304
CCB No.	2883
Package	
Type	3L SOT-23A
Die thickness	8 mils
Die size	46.50 x 41.50 mils
Lead Frame	
Paddle size	51 x 72 mils
Material	A194
Surface	Spot Ag
Process	Stamped
Lead Lock	No
Part Number	111012500016C2-141
Treatment	None
Material	
Epoxy	8006NS (screen print) Non-conductive
Wire	CuPdAu wire
Mold Compound	EMG-600-2
Plating Composition	Matte Tin

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PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
JCET175200004.000	TMPE217346455.440	1712H1E
JCET175300005.000	TMPE217346455.440	1713H1P
JCET175300006.000	TMPE217346455.440	1713H24

Result [X] Pass [ ] Fail [ ] _____

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PACKAGE QUALIFICATION REPORT

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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	JESD22-A113	693(0)	693		Good Devices
	Bake 150°C, 24 hrs System: CHINEE			693		
	85°C/85%RH Moisture Soak 168 hrs. System: TABAI ESPEC Model PR-3SPH			693		
	3x Convection-Reflow 265°C max			693		
	System: Vitronics Soltec MR1243					
	Electrical Test :+25°C System: ETS88			0/693	Pass	
Temp Cycle	**Stress Condition:** (Standard) -65°C to +150°C, 500 Cycles System : TABAI ESPEC TSA-70H	JESD22-A104		231		Parts had been pre-conditioned at 260°C
	Electrical Test: + 25°C System: ETS88		231(0)	0/231	Pass	77 units / lot
	Electrical Test: +25°C System: ETS88		231(0)	0/231	Pass	
UNBIASED-HAST	**Stress Condition:** (Standard) +130°C/85%RH, 96 hrs. System: HAST 6000X	JESD22-A118		231		Parts had been pre-conditioned at 260°C
	Electrical Test: +25°C System: ETS88		231(0)	0/231	Pass	77 units / lot

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
HAST	**Stress Condition:** (Standard) +130°C/85%RH,96 hrs. **Bias Volt:** 16.0 Volts System: HAST 6000X	JESD22-A110		231		Parts had been pre-conditioned at 260°C
	Electrical Test:+ 25°C System: ETS88		231(0)	0/231	Pass	77 units / lot
High Temperature Storage Life	**Stress Condition:** Bake 175°C, 504 hrs System: SHEL LAB	JESD22-A103		45		45 units
	Electrical Test :+25°C System: ETS88		45(0)	0/45	Pass	
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)	M2011	30 (0) Wires	0/30	Pass	
	Bond Shear (>24.00 grams)	JESD22-B116	30 (0) bonds	0/30	Pass	

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Affected Catalog Part Numbers (CPN)

PCN_RMES-28HUEN707
CATALOG_PART_NBR
MCP1702T-1202E/CB
MCP1702T-1502E/CB
MCP1702T-1802E/CB
MCP1702T-2102E/CB
MCP1702T-2202E/CB
MCP1702T-2302E/CB
MCP1702T-2502E/CB
MCP1702T-2702E/CB
MCP1702T-2802E/CB
MCP1702T-3002E/CB
MCP1702T-3302E/CB
MCP1702T-3602E/CB
MCP1702T-4002E/CB
MCP1702T-4101E/CB
MCP1702T-4502E/CB
MCP1702T-4702E/CB
MCP1702T-5002E/CB
MCP1702T-5102E/CB
MCP1703AT-1202E/CB
MCP1703AT-1502E/CB
MCP1703AT-1802E/CB
MCP1703AT-2052E/CB
MCP1703AT-2502E/CB
MCP1703AT-2802E/CB
MCP1703AT-3002E/CB
MCP1703AT-3152E/CB
MCP1703AT-3302E/CB
MCP1703AT-3302E/CBAAC
MCP1703AT-3502E/CB
MCP1703AT-4002E/CB
MCP1703AT-5001E/CB
MCP1703AT-5001E/CBAAA
MCP1703AT-5002E/CB
MCP1703T-1202E/CB
MCP1703T-1502E/CB
MCP1703T-1802E/CB
MCP1703T-2402E/CB
MCP1703T-2502E/CB
MCP1703T-2802E/CB
MCP1703T-3002E/CB
MCP1703T-3301E/CB
MCP1703T-3302E/CB
MCP1703T-3502E/CB

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Affected Catalog Part Numbers (CPN)

PCN_RMES-28HUEN707
CATALOG_PART_NBR
MCP1703T-3602E/CB
MCP1703T-4002E/CB
MCP1703T-4502E/CB
MCP1703T-5001E/CB
MCP1703T-5002E/CB
MCP1703T-5002E/CBHAZ