Product Change Notification / ASER-06FDTY754

Date:

11-Mar-2022

Product Category:

AC/DC - Offline Linear Regulators, General Purpose LED Drivers, Linear Regulator ICs, Power Management - System Supervisors/Voltage Detectors

PCN Type:

Manufacturing Change

Notification Subject:

CCB 4882 Final Notice: Qualification of CEL-8240 GS new molding compound for selected LR8Nxxx, LR645Nxxx, LR745Nxxx, LR12Nxxx, HV992xxx and TC32Mxxx device families available in 3L TO-92 package at CRTK assembly site.

Affected CPNs:

ASER-06FDTY754_Affected_CPN_03112022.pdf
ASER-06FDTY754_Affected_CPN_03112022.csv

Notification Text:

PCN Status: Final Notification

PCN Type: Manufacturing Change

Microchip Parts Affected: Please open one of the files found in the Affected CPNs section.
Note: For your convenience Microchip includes identical files in two formats (.pdf and .xls)

Description of Change: Qualification of CEL-8240 GS new molding compound for selected LR8Nxxx, LR645Nxxx, LR745Nxxx, LR12Nxxx, HV992xxx and TC32Mxxx device families available in 3L TO-92 package.

Pre and Post Change Summary:

		Pre Change			**Post Change**
Assembly Site		GREATEK ELETRONIC INC. (GTK)		Cirtek Electronics Corporation (CRTK)	Cirtek Electronics Corporation (CRTK)
Wire Material		Au		Au	Au
Die Attach Material		CRM1076DJ-G		84-1LMISR4	84-1LMISR4
Molding Compound Material		G600F		EME-G600	CEL-8240 GS
Lead-Frame	Material*	CDA194		A194	A194
	Paddle size	105x86 mil	105x88 mil	105x100 mil	105x87 mil
	Design	See Pre and Post Change Summary for Comparison.			

*Note: C194, A194 or CDA194 Lead frame material are the same material, these are simply a MCHP internal labelling difference.

Impacts to Data Sheet: None

Change Impact None

Reason for Change: To improve productivity and on-time delivery performance by qualifying CEL-8240 GS new mold compound material at CTRK assembly site.

Change Implementation Status: In Progress

Estimated First Ship Date: April 20, 2022 (date code: 2217)

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

Time Table Summary:

	November 2021				→	**March 2022**					**April 2022**			
Workweek	45	46	47	48		10	11	12	13	14	15	16	17	18
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: November 2, 2021: Issued initial notification.
March 11, 2022: Issued final notification. Stated CEL-8240 GS molding compound in the notification subject and description of change. Added lead frame paddle size in Pre and Post Change table and summary. Attached the qualification report. Provided estimated first ship date to be on April 20, 2022.

The change described in this PCN does not alter Microchip's current regulatory compliance regarding the material content of the applicable products.

Attachments:

PCN_ASER-06FDTY754_Qual_Report.pdf
PCN_ASER-06FDTY754_Pre_and Post Change Summary.pdf

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

Terms and Conditions:

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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.

CCB 4882
Pre and Post Change Summary
PCN #: ASER-06FDTY754

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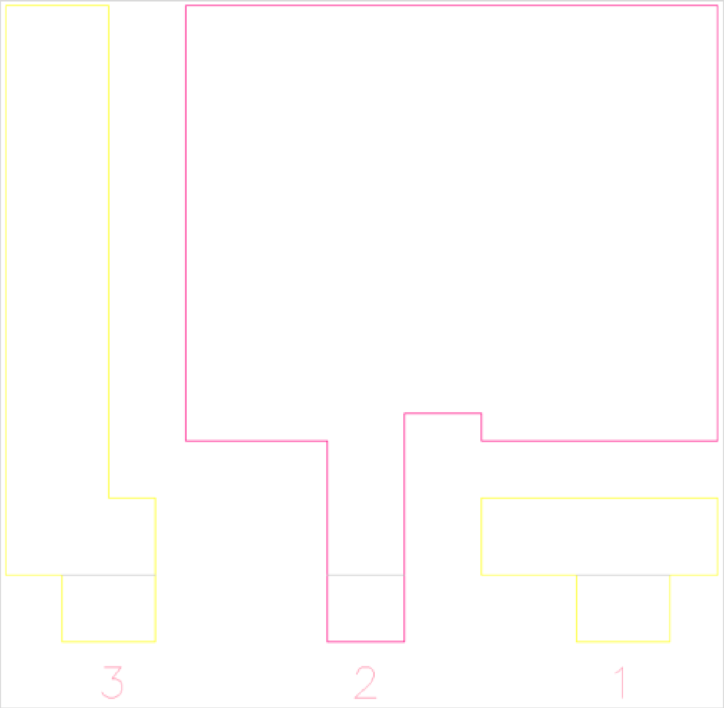
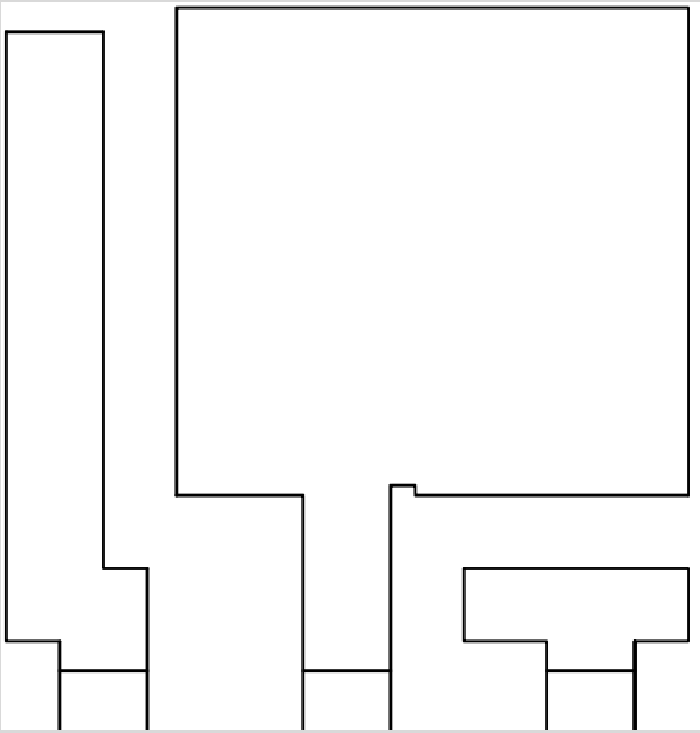
SMART | CONNECTED | SECURE

Lead Frame Comparison

GTK	CRTK



Lead-Frame Material	CDA194
Lead-Frame Paddle size	105x86 mil or 105x88 mil



	Pre-Change	Post Change
Lead-Frame Material	A194	A194
Lead-Frame Paddle Size	105x100 mil	105x87 mil

Note: C194, A194 or CDA194 Lead frame material are the same material, these are simply a MCHP internal labelling difference.

QUALIFICATION REPORT SUMMARY

RELIABILITY LABORATORY

PCN #: ASER-06FDTY754

Date
March 2, 2022

Qualification of CEL-8240 GS new molding compound for selected LR8Nxxx, LR645Nxxx, LR745Nxxx, LR12Nxxx, HV992xxx and TC32Mxxx device families available in 3L TO-92 package at CRTK assembly site.

PACKAGE QUALIFICATION REPORT

Purpose	**Qualification of CEL-8240 GS new molding compound for selected LR8Nxxx, LR645Nxxx, LR745Nxxx, LR12Nxxx, HV992xxx and TC32Mxxx device families available in 3L TO-92 package at CRTK assembly site.**
CCB No.	4882
CN	E000073350
QUAL ID	R2101129 Rev. A
MP CODE	Y20201A2XA00
Part No.	TC32MCZB
Bonding No.	S195-TO-003-OE
Package	
Type	3L TO-92
Lead Frame	
Paddle size	105 x 87 mils
Material	A194
Surface	Ag
Process	Stamped
Lead Lock	No
Part Number	TO03NH2102
Die attach material	
Epoxy	84-1 LMIS R4
Wire	Au wire
Mold Compound	CEL-8240 GS
Plating Composition	Matte Sn

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PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
CRTK222900002.000	TMPE221475474.200	2141WRH
CRTK222900003.000	TMPE221475474.200	2141WSB
CRTK222900004.000	TMPE221475474.200	2141WSS

Result ☒ Pass ☐ Fail ☐ ____________________

3L TO-92 assembled by CRTK pass reliability test per QCI-39000.

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
Electrical Test	**Electrical Test:** +25°C System: TTS	JESD22-A113	693(0)	693		Good Devices
Temp Cycle	**Stress Condition:** -65°C to +150°C, 500 Cycles System: TABAI ESPEC TSA-70H Inspection: External crack inspection all units under 40X Optical magnification	JESD22-A104		231		
	Electrical Test: +25°C System: TTS		231(0)	0/231	Pass	77 units / lot
	Bond Strength: Wire Pull (>4.00 grams)		15 (0)	0/15	Pass	
	Bond Shear (>18.00 grams)		15 (0)	0/15	Pass	
UNBIASED-HAST	**Stress Condition:** +130°C/85%RH, 96 hrs. System: HAST 6000X	JESD22-A118		231		
	Electrical Test: +25°C System: TTS		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:** +130°C/85%RH, 96 hrs. **Bias Volt:** 5.5 Volts System: HAST 6000X **Electrical Test:** +25°C System: TTS	JESD22-A110	231(0)	231 0/231	Pass	77 units / lot
High Temperature Storage Life	**Stress Condition:** Bake 175°C, 504 hrs System: SHEL LAB **Electrical Test:** +25°C System: TTS	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	J-STD-002	22 (0)	22 22 0/22	Pass	
Lead Integrity	15 Leads from a minimum of 5 units, 1 lot. System: Strain	JESD22 B105	15(0)	0/15	Pass	
Wire sweep	Wire sweep Inspection 15 Wires / lot	-	45(0) Wires	0/45	Pass	
Physical Dimensions	Physical Dimension, 10 units per lot	JESD22-B100/B108	30(0) Units	0/30	Pass	
Bond Strength **Data Assembly**	Wire Pull (>4.00 grams) Bond Shear (>13.00 grams)	Mil. Std. 883-2011	30 (0) Wires 30 (0) bonds	0/30 0/30	Pass Pass	

Affected Catalog Part Numbers (CPN)

LR8N3-G
LR8N3-G-P003
LR645N3-G
LR645N3-G-P003
LR645N3-G-P013
LR745N3-G
LR745N3-G-P003
LR745N3-G-P013
LR12N3-G
HV9921N3-G
HV9922N3-G
HV9923N3-G
TC32MCZB
TC32MEZB