Product Change Notification / GBNG-19TOBI439

Date:

15-Mar-2022

Product Category:

Analog Temperature Sensors, Depletion Mode MOSFETs, Linear Regulator ICs, Linear Regulators, Voltage References

PCN Type:

Manufacturing Change

Notification Subject:

CCB 4885 Final Notice: Qualification of CEL-8240 GS as a new mold compound material for selected Supertex CL2xx, CL52xx, LND150, MCP15xx, MCP170x and MCP970xx device families available in 3L TO-92 package assembled at CRTK assembly site.

Affected CPNs:

GBNG-19TOBI439_Affected_CPN_03152022.pdf
GBNG-19TOBI439_Affected_CPN_03152022.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 as a new mold compound material for selected Supertex CL2xx, CL52xx, LND150, MCP15xx, MCP170x and MCP970xx device families available in 3L TO-92 package assembled at CRTK assembly site.

Pre and Post Change Summary:

		Pre Change		Post Change
Assembly Site		Greatek Electronic 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
	Lead lock	No	No	No
	Design	See attached Pre and Post change comparison		
Package Lay-out		See attached Pre and Post change comparison		

Note: * C194, A194 or CDA194 Lead frame material are the same, it is just 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 as a new mold compound material at CRTK 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	49		10	11	12	13	14	15	16	17	18
Initial PCN Issue Date	X														
Qual Report Availability									X						
Final PCN Issue									X						

Date															
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 04, 2021: Issued initial notification.
March 15, 2022: Issued final notification. Attached the Qualification Report. Provided estimated first ship date to be on April 20, 2022. Updated the package lay-out in Pre and Post change comparison (ppt file) for CRTK – Die sit either flat side or curve side depending on die or BD lay-out on some devices.

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

Attachments:

PCN_GBNG-19TOBI439_Qual_Report.pdf
PCN_GBNG-19TOBI439_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 4885
Pre and Post Change Summary
PCN #: GBNG-19TOBI439

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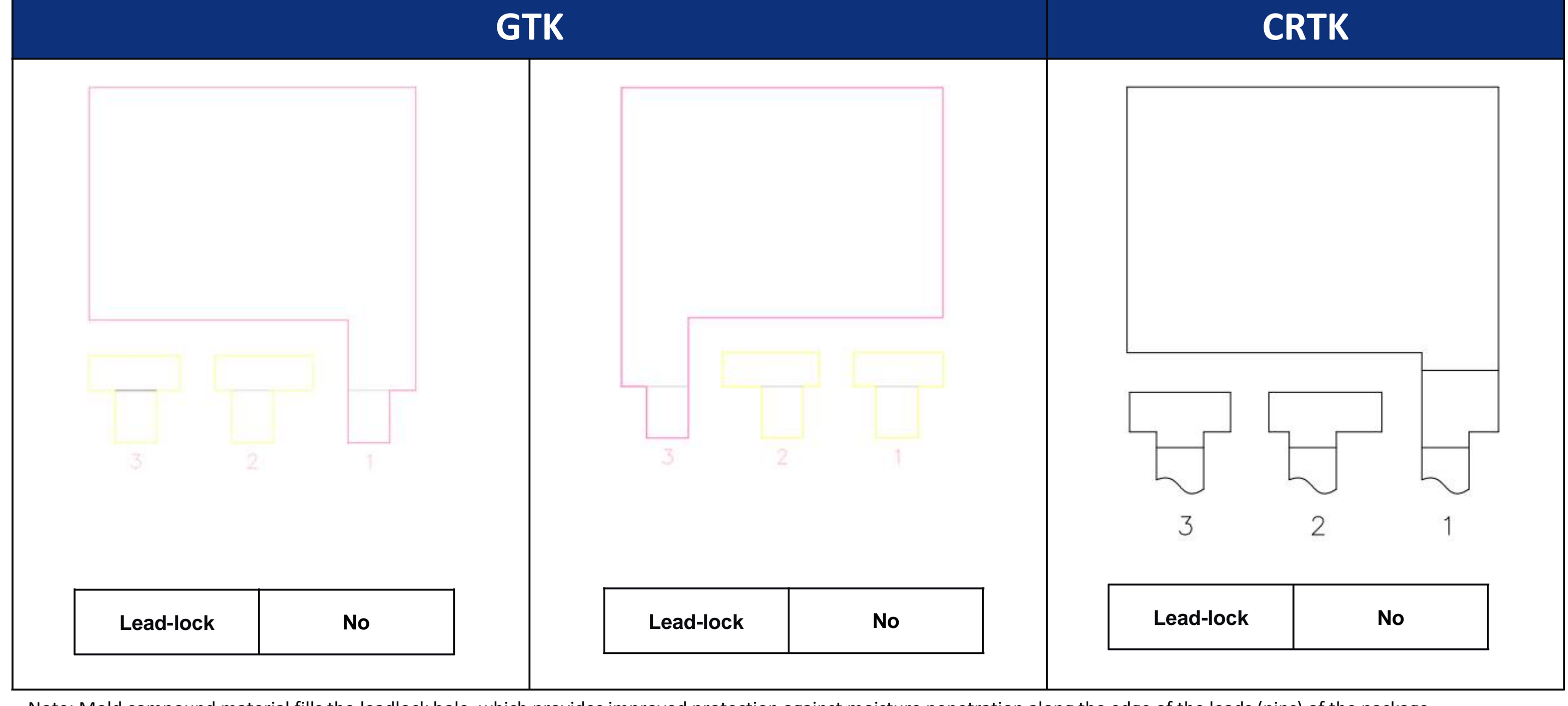
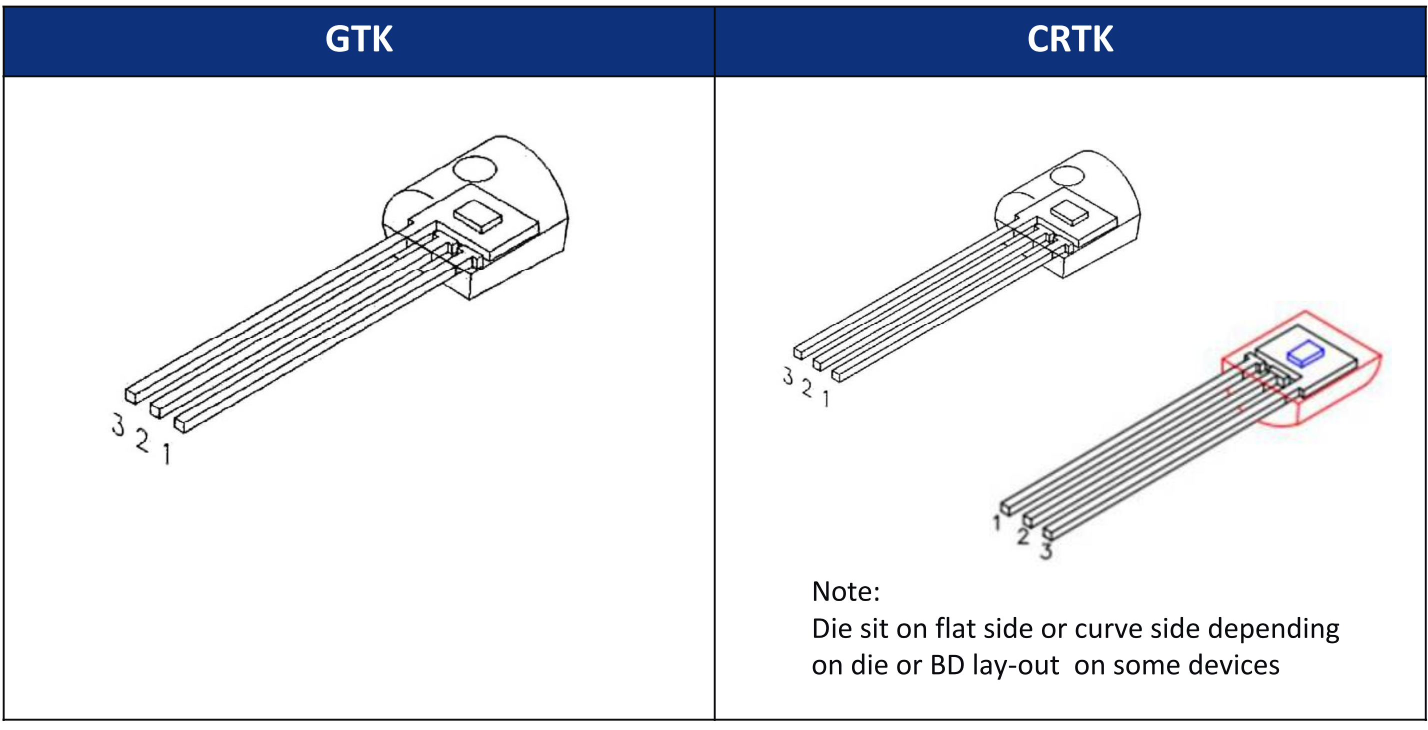
Lead Frame Comparison



Note: Mold compound material fills the leadlock hole, which provides improved protection against moisture penetration along the edge of the leads (pins) of the package.

Package Lay-out



QUALIFICATION REPORT SUMMARY

RELIABILITY LABORATORY

PCN #: GBNG-19TOBI439

Date:
March 1, 2022

Qualification of CEL-8240 GS as a new mold compound material for selected Supertex CL2xx, CL52xx, LND150, MCP15xx, MCP170x and MCP970xx device families available in 3L TO-92 package assembled at CRTK assembly site.

PACKAGE QUALIFICATION REPORT

Purpose	**Qualification of CEL-8240 GS as a new mold compound material for selected Supertex CL2xx, CL52xx, LND150, MCP15xx, MCP170x and MCP970xx device families available in 3L TO-92 package assembled at CRTK assembly site.**
CN	E000083651
QUAL ID	R2200001 Rev. A
MP CODE	ABBA14A2XA33
Part No.	MCP1700-3302E/TO
CCB No.	4885
Package	
Type	3L TO-92
Lead Frame	
Paddle size	140 x 100 mils
Material	A194
Surface	Ag
Process	Stamping
Lead Lock	No
Part Number	TO03NH2105
Die attach material	
Epoxy	84-1LMISR4
Wire	Au wire
Mold Compound	CEL-8240 GS
Plating Composition	Matte Sn

PACKAGE QUALIFICATION REPORT

Manufacturing Information:

Assembly Lot No.	Wafer No.	Date Code
CRTK223500001.000	TMPE222159703.300	2147QV8
CRTK223500002.000	TMPE222159703.300	2147QVW
CRTK223500003.000	TMPE222159703.300	2147QWG

Result [X] 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 and 125°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: +125°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: TTS1000		231(0)	0/231	Pass	77 units / lot
HAST	**Stress Condition:** +130°C/85%RH, 96 hrs. **Bias Volt:** 6.0 Volts System: HAST 6000X	JESD22-A110		231		
	Electrical Test: +25°C and 125°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
High Temperature Storage Life	**Stress Condition:** Bake 175°C, 504 hrs System: SHEL LAB **Electrical Test:** +25°C and 125°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	JESD22B-102E	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	

GBNG-19TOBI439 - CCB CL52xx LND150 MCP15xx MCP170x and MCP970xx device families avail

Affected Catalog Part Numbers(CPN)

CL25N3-G
CL2N3-G
CL2N3-G-D591
CL2N3-G-D602
CL2N3-G-P002
CL520N3-G
CL525N3-G
LND150N3-G
LND150N3-G-P002
LND150N3-G-P003
LND150N3-G-P013
LND150N3-G-P014
MCP1525-I/TO
MCP1541-I/TO
MCP1700-1202E/TO
MCP1700-1302E/TO
MCP1700-1502E/TO
MCP1700-1802E/TO
MCP1700-2102E/TO
MCP1700-2302E/TO
MCP1700-2502E/TO
MCP1700-2702E/TO
MCP1700-2802E/TO
MCP1700-3002E/TO
MCP1700-3102E/TO
MCP1700-3302E/TO
MCP1700-4002E/TO
MCP1700-5002E/TO
MCP1700-3001E/TO
MCP9700-E/TO
MCP9700A-E/TO
MCP9701-E/TO
MCP9701A-E/TO
MCP1702-1202E/TO
MCP1702-1502E/TO
MCP1702-1802E/TO
MCP1702-2502E/TO
MCP1702-2802E/TO
MCP1702-3002E/TO
MCP1702-3302E/TO
MCP1702-3602E/TO
MCP1702-4002E/TO

MCP1702-5002E/TO