



Product Change Notification / NTDO-04TZHM142

Date:

16-May-2022

Product Category:

Depletion Mode MOSFETs, N-Channel Enhancement Mode MOSFETs, P-Channel Enhancement Mode MOSFETs

PCN Type:

Manufacturing Change

Notification Subject:

CCB 4883 Final Notice: Qualification of CEL-8240 as a new mold compound for 2N700x, DNx5xxN3, LP0701N3, TxxxxxN3, VNxxxxxx and VPxxxxxx device families available in 3L TO-92 package assembled at CRTK assembly site.

Affected CPNs:

[NTDO-04TZHM142_Affected_CPN_05162022.pdf](#)
[NTDO-04TZHM142_Affected_CPN_05162022.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 as a new mold compound for 2N700x, DNx5xxN3, LP0701N3, TxxxxxN3, VNxxxxxx and VPxxxxxx device families available in 3L TO-92 package assembled at CRTK assembly site.

Pre and Post Change Summary:

Method to Identify Change:Traceability code

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

Revision History:

November 8, 2021: Issued initial notification.

May 16, 2022: Issued final notification. Attached is the qualification report. Provided estimated first ship date on June 30, 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_NTDO-04TZHM142_Pre and Post Change Summary.pdf](#)

[PCN_NTDO-04TZHM142_Qual Report.pdf](#)

Please contact your local [Microchip sales office](#) with questions or concerns regarding this notification.

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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)

DN2540N3-G
DN3545N3-G
DN2530N3-G
DN2535N3-G
TN0606N3-G
TN0610N3-G
TN0620N3-G
TN0620N3-G-D163
TN2540N3-G
TP0606N3-G
VP0808L-G
TP0620N3-G
TP2535N3-G
TP2540N3-G
VN0300L-G
VN1206L-G
VN2406L-G
VN2410L-G
VN4012L-G
DN2540N3-G-P003
DN2535N3-G-P003
DN2535N3-G-P013
TN0606N3-G-P003
TN0610N3-G-P003
TN0610N3-G-P013
TN0620N3-G-P002
TN0620N3-G-P014
TN2540N3-G-P002
TP0606N3-G-P002
TP0606N3-G-P003
TP2540N3-G-P002
VN0300L-G-P002
VN1206L-G-P002
VN2410L-G-P013
VN2410L-G-P014
2N7000-G
2N7000-G-D596
2N7008-G
TN2106N3-G
TP2104N3-G
VN0104N3-G
VN0808L-G
VN10KN3-G
VN2106N3-G
VN2222LL-G
VP2106N3-G

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TP2T04N3-G-P005
VN0104N3-G-P013
VN10KN3-G-P002
VN10KN3-G-P003
VN10KN3-G-P013
VN10KN3-G-P014
VN2222LL-G-P003
VN2222LL-G-P013
VN2210N3-G
VN2224N3-G
VP2206N3-G
VP2206N3-G-P003
TN2640N3-G
TP2635N3-G
TP2640N3-G
TN0604N3-G
TN0702N3-G
TN0604N3-G-P005
TN0604N3-G-P013
VN3205N3-G
VP3203N3-G
VN3205N3-G-P002
LP0701N3-G
VN2450N3-G
VN2460N3-G
VP2450N3-G
VN2460N3-G-P003
VN2460N3-G-P014
TN5325N3-G
TN5325N3-G-P002
TN0106N3-G
TN0110N3-G
TN0104N3-G
VN0106N3-G
VN0109N3-G
VN0606L-G
VN0550N3-G
VP0104N3-G
VP0106N3-G
VP0109N3-G
VP0550N3-G
VP0550N3-G-D559
TN0106N3-G-P003
TN0106N3-G-P013
TN0110N3-G-P002
TN0104N3-G-P003
TN0104N3-G-P014
VN0106N3-G-P003
VN0606L-G-P003

NTDO-04TZHM142 - CCB 4883 Final Notice: Qualification of CEL-8240 as a new mold compound for 2N700x, DNx5xxN3, LP0701N3, TxxxxxN3, VNxxxxxx and VPxxxxxx device families available in 3L TO-92 package assembled at CRTK assembly site.

VN0550N3-G-P013

VP0550N3-G-P013

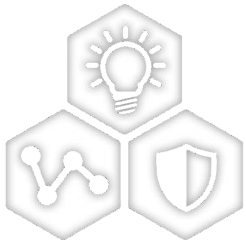
CCB 4883

Pre and Post Change Summary

PCN #: NTDO-04TZHM142



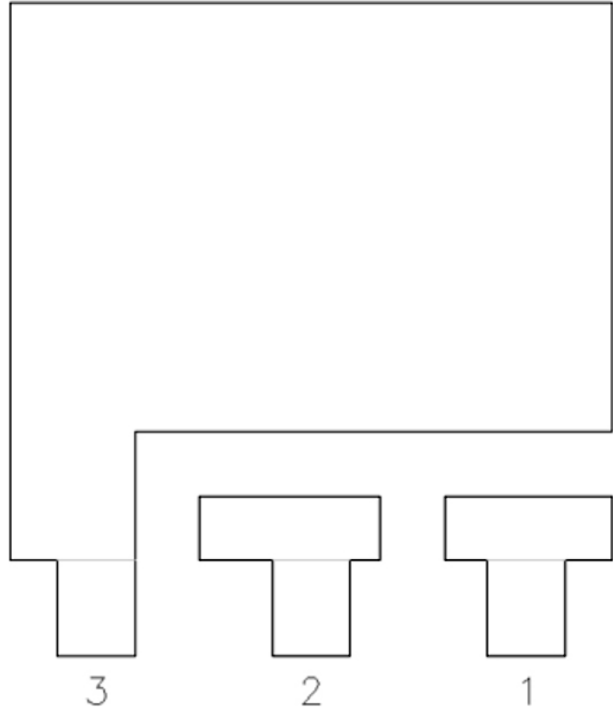
A Leading Provider of Smart, Connected and Secure Embedded Control Solutions



SMART | CONNECTED | SECURE

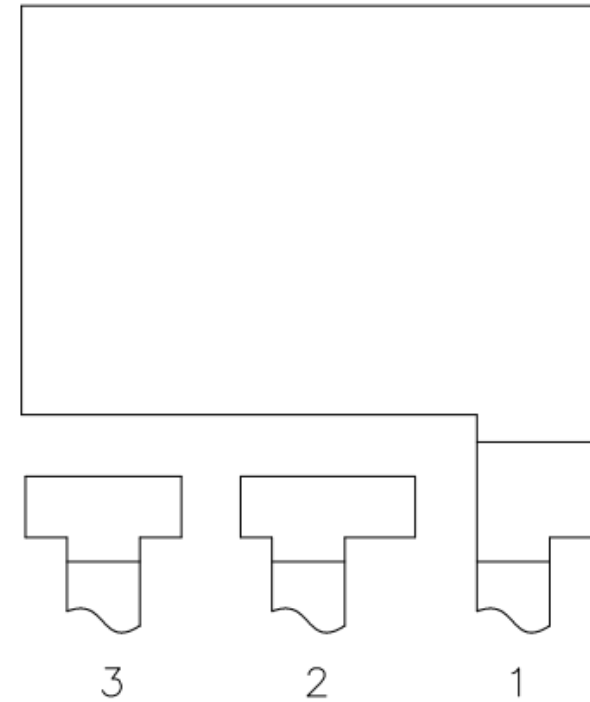
Lead Frame Comparison

GTK



Lead Frame Material	CDA194 / A194
Lead-lock (Locking Holes)	No

CRTK

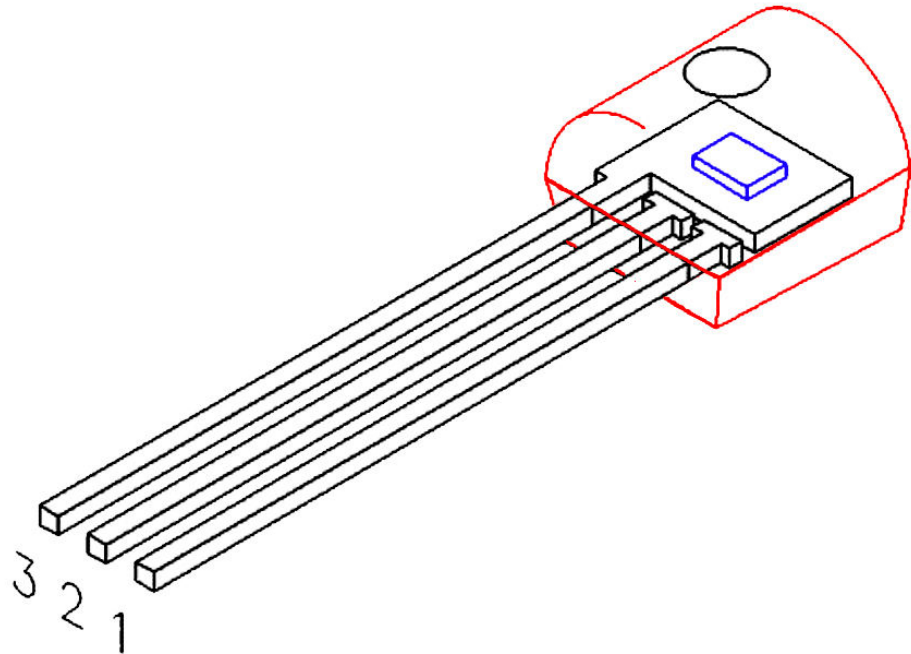


Lead Frame Material*	A194
Lead-lock (Locking Holes)	No

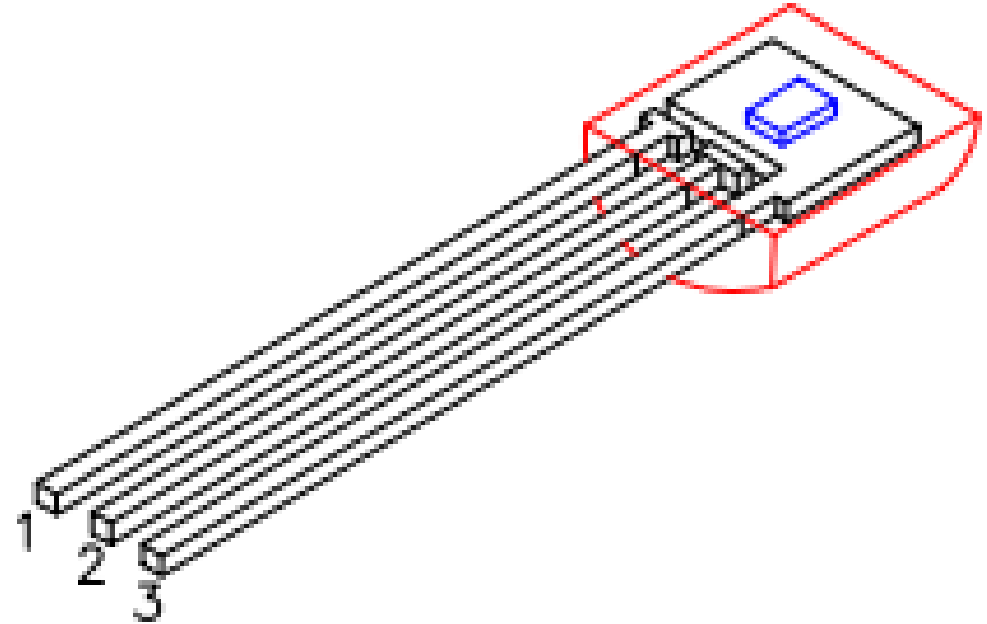
Note:*C194, A194 or CDA194 Lead frame material are the same, it is just a MCHP internal labelling difference.

Package Layout

GTK



CRTK



Die sit on flat side



MICROCHIP

QUALIFICATION REPORT SUMMARY

PCN #: NTDO-04TZHM142

Date
April 29, 2022

Qualification of CEL-8240 as a new mold compound for 2N700x, DNx5xxN3, LP0701N3, TxxxxxN3, VNxxxxxx and VPxxxxxx device families available in 3L TO-92 package assembled at CRTK assembly site.



MICROCHIP PACKAGE QUALIFICATION REPORT

Purpose	Qualification of CEL-8240 as a new mold compound for 2N700x, DNx5xxN3, LP0701N3, TxxxxxN3, VNxxxxxx and VPxxxxxx device families available in 3L TO-92 package assembled at CRTK assembly site.
CCB	4883
CN	E000093139
QUAL ID	R2200274
MP CODE	630589A2XB00
Part No.	TN2640N3-G
Bonding No.	BD-000287 Rev. 02
<u>Package</u>	
Type	3L TO-92
<u>Lead Frame</u>	
Paddle size	140 x 100 mils
Material	A194
Surface	Ag
Process	Stamping
Lead Lock	No
Part Number	TO03NH2105
<u>Die attach material</u>	
Epoxy	84-1 LMIS R4
Wire	Au wire
Mold Compound	CEL-8240 GS
Plating Composition	Matte Sn



MICROCHIP PACKAGE QUALIFICATION REPORT

Manufacturing Information:

Assembly Lot No.	Wafer Lot No.	Date Code
CRTK224600001.000	TMPE222286635.200	2206VC0
CRTK224600002.000	TMPE222286635.200	2206VC8
CRTK224600003.000	TMPE222286635.200	2206VCB

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: ETS300	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: ETS300		231(0)	0/231	Pass	77 units / lot
	Bond Strength: Wire Pull (> 4.0 grams) Bond Shear (18.00 grams)		15 (0) 15 (0)	0/15 0/15	Pass Pass	
UNBIASED- HAST	Stress Condition: +130°C/85%RH, 96 hrs. System: HAST 6000X	JESD22- A118		231		
	Electrical Test: +25°C System: ETS300		231(0)	0/231	Pass	77 units / lot
HAST	Stress Condition: +130°C/85%RH, 96 hrs. Bias Volt: 42 Volts System: HAST 6000X	JESD22- A110		231		
	Electrical Test: +25°C System: ETS300		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	JESD22-A103		45		45 units
	Electrical Test: +25°C System: ETS300		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	
Wire sweep	Wire sweep Inspection 15 Wires / lot	-	45(0) Wires	0/45	Pass	
Physical Dimensions	Physical Dimension, 10 units per 1 lot	JESD22-B100/B108	30(0) Units	0/30	Pass	
Lead Integrity	15 Leads from a minimum of 5 units, 1 lot. System: Strain	JESD22 B105	15(0) Leads	0/15	Pass	
Bond Strength Data Assembly	Wire Pull (> 4.00 grams)	Mil. Std.	30 (0) Wires	0/30	Pass	
	Bond Shear (> 13.00 grams)	883-2011	30 (0) bonds	0/30	Pass	

