



Product Change Notification / RMES-05GWNV962

Date:

23-Jan-2023

Product Category:

Linear Regulators, Power Management - Power Switches

PCN Type:

Manufacturing Change

Notification Subject:

CCB 5127 Final Notice: Qualification of G700 as a new mold compound material for selected MIC20xxx and MIC5159 device families available in 6L SOT-23 package assembled at STAR assembly site.

Affected CPNs:

[RMES-05GWNV962_Affected_CPN_01232023.pdf](#)
[RMES-05GWNV962_Affected_CPN_01232023.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 G700 as a new mold compound material for selected MIC20xxx and MIC5159 device families available in 6L SOT-23 package assembled at STAR assembly site.

Pre and Post Change Summary:

	Pre Change	Post Change
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Assembly Site	Stars Microelectronics (Thailand) Public Company Limited (STAR)	Stars Microelectronics (Thailand) Public Company Limited (STAR)
Wire Material	Au	Au
Die Attach Material	84-1LMISR4	84-1LMISR4
Molding Compound Material	G600	G700
DAP Surface Prep	NiPdAu with Roughened	NiPdAu with Roughened
Lead-frame Material	A194	A194

Impacts to Data Sheet:None

Change Impact:None

Reason for Change:To improve manufacturability by qualifying G700 as a new mold compound material.

Change Implementation Status:In Progress

Estimated First Ship Date:February 28, 2023 (date code: 2309)

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

Time Table Summary:

	May 2022					->	January 2023					February 2023				
Workweek	1 9	2 0	2 1	2 2	2 3		1	2	3	4	5	6	7	8	9	10
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: May 06, 2022: Issued initial notification.

January 23, 2023: Issued final notification. Attached the Qualification Report. Provided estimated first ship date to be on February 28, 2023.

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

Attachments:

[PCN_RMES-05GWNV962_Qual_Report.pdf](#)

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

Terms and Conditions:

If you wish to receive Microchip PCNs via email please register for our PCN email service at our [PCN home page](#) select register then fill in the required fields. You will find instructions about registering for Microchips PCN email service in the [PCN FAQ](#) section.

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)

MIC2005A-1YM6-TR
MIC2005A-2YM6-TR
MIC2009A-1YM6-TR
MIC2009A-2YM6-TR
MIC2019A-1YM6-TR
MIC2005-0.5YM6-TR
MIC2005-0.8YM6-TR
MIC2005-1.2YM6-TR
MIC2005M-0.5YM6-TR
MIC2007YM6-TR
MIC2008YM6-TR
MIC2009YM6-TR
MIC2015-0.5YM6-TR
MIC2015-0.8YM6-TR
MIC2015-1.2YM6-TR
MIC2017YM6-TR
MIC2018YM6-TR
MIC2019YM6-TR
MIC2019A-2YM6-TR
MIC5159-1.8YM6-TR
MIC5159YM6-TR



MICROCHIP

QUALIFICATION REPORT SUMMARY
RELIABILITY LABORATORY

PCN#: RMES-05GWNV962

Date
January 11, 2023

**Qualification of G700 as a new mold compound material for selected
MIC20xxx and MIC5159 device families available in 6L SOT-23
package assembled at STAR assembly site.**



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PACKAGE QUALIFICATION REPORT

Purpose	Qualification of G700 as a new mold compound material for selected MIC20xxx and MIC5159 device families available in 6L SOT-23 package assembled at STAR assembly site.
CCB	5127
CN	E000107953
QUAL ID	R2200979 Rev A.
MP CODE	28805Y6AXA02
Part No.	MIC5159YM6-TR
Bonding No.	BD-000674 Rev.01
<u>Package</u>	
Type	6L SOT-23
<u>Lead Frame</u>	
Paddle size	41 x 72 mils
Material	A194
Surface	NiPdAu with Roughened
Process	STAMP
Lead Lock	No
Part Number	07S4172ST00
Treatment	RT+UPG
<u>Material</u>	
Epoxy	84-1LMISR4
Wire	Au wire
Mold Compound	G700
Plating Composition	NiPdAu



MICROCHIP **PACKAGE QUALIFICATION REPORT**

Manufacturing Information:

Assembly Lot No.	Wafer Lot No.	Date Code
STAR230600040.000	TMPE222088150.500	2219P40
STAR230600041.000	TMPE222088150.500	2219P99
STAR230700001.000	TMPE222088150.500	2220P9V

Result

☒

Pass

☐

Fail

☐

6L SOT-23 assembled by STAR 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-020E standard.

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS	Result	Remarks
<u>Precondition</u> <u>Prior Perform</u> <u>Reliability Tests</u> (At MSL Level 1)	Electrical Test: +25°C System: TMT	JESD22-A113	693(0)	0/693		Good Devices
	Bake 150°C, 24 hrs. System: CHINEE	JIP/IPC/JEDEC		0/693		
	85°C/85%RH Moisture Soak 168 hrs. System: TABAI ESPEC Model PR-3SPH	J-STD-020E		0/693		
	3x Convection-Reflow 265°C max System: Vitronics Soltec MR1243			0/693		
	Electrical Test: +25°C System: TMT		693(0)	0/693	Pass	

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
Temp Cycle	Stress Condition: -65°C to +150°C, 500 Cycles System: TABAI ESPEC TSA-70H Electrical Test: +25°C System: TMT Bond Strength: Wire Pull (>3.00 grams) Bond Shear (>21.10 grams)	JESD22-A104		0/231		Parts had been pre-conditioned at 260°C
			231(0)	0/231	Pass	77 units / lot
			15(0)	0/15	Pass	
			15(0)	0/15	Pass	
UNBIASED-HAST	Stress Condition: +130°C/85%RH, 96 hrs. System: HAST 6000X Electrical Test: +25°C System: TMT	JESD22-A118		0/231		Parts had been pre-conditioned at 260°C
			231(0)	0/231	Pass	77 units / lot
HAST	Stress Condition: +130°C/85%RH, 96 hrs. Bias Volt: 5.5 Volts System: HAST 6000X Electrical Test: +25°C System: TMT	JESD22-A110		0/231		Parts had been pre-conditioned at 260°C
			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		0/45		
	Electrical Test: +25°C System: TMT		45(0)	0/45	Pass	
Solderability Temp 215°C	Steam Aging: Temp 93°C, 1Hrs System: SAS-3000 Solder Dipping: Solder Temp. 215°C Solder material: SnPb Sn63, Pb37 System: ERS RA 2200D Visual Inspection: External Visual Inspection	J-STD-002	22(0)	022 022 0/22	Pass	
Solderability Temp 245°C	Steam Aging: Temp 93°C, 1Hrs System: SAS-3000 Solder Dipping: Solder Temp. 245°C Solder material: Pb Free Sn 95.5Ag3.9 Cu0.6 System: ERS RA 2200D Visual Inspection: External Visual Inspection	J-STD-002	22(0)	0/22 0/22 0/22	Pass	
Physical Dimensions	Physical Dimension, 10 units / 1 lot	JESD22- B100/B108	30(0) Units	0/30	Pass	
Bond Strength Data Assembly	Wire Pull (>3.00 grams)	Mil. Std. 883-2011	30(0) Wires	0/30	Pass	
	Bond Shear (>21.10 grams)	CDF-AEC- Q100-001	30(0) bonds	0/30	Pass	