



Product Change Notification / GBNG-12GODC626

Date:

27-Nov-2020

Product Category:

Clock and Timing - Clock and Data Distribution, Clock and Timing - Clock Generation, Clock and Timing - Oscillators

PCN Type:

Manufacturing Change

Notification Subject:

CCB 4149 Final Notice: Qualification of EN-4900GC die attach and G600F mold compound material for selected Micrel products available in 6L SOT-23 package at GTK assembly site.

Affected CPNs:

[GBNG-12GODC626_Affected_CPN_11272020.pdf](#)

[GBNG-12GODC626_Affected_CPN_11272020.csv](#)

Notification Text:

PCN Status:

Final notification

PCN Type:

Manufacturing Change

Microchip Parts Affected:

Please open one of the icons found in the Affected CPNs section above.

NOTE: For your convenience Microchip includes identical files in two formats (.pdf and .xls).

Description of Change:

Qualification of EN-4900GC die attach and G600F mold compound material for selected Micrel products available in 6L

SOT-23 package at GTK assembly site.

Pre Change:

Using CRM1076DJ-G die attach and G631M mold compound material with 39X66 mils lead frame paddle size.

Post Change:

Using EN-4900GC die attach and G600F mold compound material with 41X72 mils lead frame paddle size.

Pre and Post Change Summary:

		Pre Change	Post Change
Assembly Site		GREATEK ELETRONIC INC. (GTK)	GREATEK ELETRONIC INC. (GTK)
Wire material		Au	Au
Die attach material		CRM1076DJ-G	EN-4900GC
Molding compound material		G631M	G600F
Lead frame	Material	A194	A194
	Paddle size	39X66 mils	41X72 mils

Impacts to Data Sheet:

None

Change Impact:

None

Reason for Change:

To improve productivity by qualifying EN-4900GC die attach and G600F mold compound material.

Change Implementation Status:

In Progress

Estimated First Ship Date:

December 31, 2020 (date code: 2053)

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

Time Table Summary:

	March 2020					-->	November 2020				December 2020				
	10	11	12	13	14		45	46	47	48	49	50	51	52	53
Initial PCN Issue Date				X											
Qual Report Availability									X						
Final PCN Issue Date									X						

Affected Catalog Part Numbers (CPN)

PL611-01-S35TI
PL611-01-S38TI
PL602-21TC-R
PL611-01-F93TC-R
PL602-20-K52TC-R
PL602-23TC-R
PL611-01-440TC-R
PL611-01-441TC-R
PL611-01-442TC-R
PL611-01-E18TC-R
PL611-01-E19TC-R
PL611-01-E20TC-R
PL611-01-E21TC-R
PL611-01-G12TC-R
PL611-01-K81TC-R
PL611-01-P22TC-R
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PL611-01-S34TI



QUALIFICATION REPORT SUMMARY
RELIABILITY LABORATORY

PCN #: GBNG-12GODC626

Date
November 10, 2020

Qualification of EN-4900GC die attach and G600F mold compound material for selected Micrel products available in 6L SOT-23 package at GTK assembly site.

PACKAGE QUALIFICATION REPORT

Purpose	Qualification of EN-4900GC die attach and G600F mold compound material for selected Micrel products available in 6L SOT-23 package at GTK assembly site.
CCB No.	4149
CN	ES338417
QUAL ID	R2000151 Rev. A
MP CODE	UGNA1SC8XA12
Part No.	PL671-01-R45TC-R
Bonding No.	BDM-002383 Rev. B
<u>Package</u>	
Type	6L SOT-23
<u>Lead Frame</u>	
Paddle size	41 x 72 mils
Material	A194
Surface	100% Ag plating
Process	Stamped
Lead Lock	none
Part Number	11-04026-004-C
Treatment	none
<u>Material</u>	
Epoxy	EN-4900GC
Wire	Au wire
Mold Compound	G600F
Plating Composition	Matte Tin

PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
GTK-204900056.000	GF02920295556.000	20105HV
GTK-204900055.000	GF02920295556.000	20105HU
GTK-205000001.000	GF02920295556.000	20115J0

Result

Pass Fail _____

6L SOT-23 assembled by GTK 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_TCG_NT	JESD22- A113	693(0)	693		Good Devices
	Bake 150°C, 24 hrs	JIP/		693		
	System: CHINEE	IPC/JEDEC				
	85°C/85%RH Moisture Soak 168 hrs.	J-STD-020E			693	
	System: TABAI ESPEC Model PR-3SPH				693	
3x Convection-Reflow 265°C max					Pass	
System: Vitronics Soltec MR1243						
Electrical Test: +25°C System: TMT_TCG_NT				0/693		

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	JESD22-A104		231		Parts had been pre-conditioned at 260°C 77 units / lot
	Electrical Test: + 25°C System: TMT_TCG_NT		231(0)	0/231	Pass	
	Bond Strength: Wire Pull (> 2.5 grams)		15 (0)	0/15	Pass	
	Bond Shear (>15.00 grams)		15 (0)	0/15	Pass	
UNBIASED-HAST	Stress Condition: +130°C/85%RH, 96 hrs. System: HAST 6000X	JESD22-A118		231		Parts had been pre-conditioned at 260°C 77 units / lot
	Electrical Test: + 25°C System: TMT_TCG_NT		231(0)	0/231	Pass	
HAST	Stress Condition: +130°C/85%RH, 96 hrs. Bias Volt: 5.0 Volts System: HAST 6000X	JESD22-A110		231		Parts had been pre-conditioned at 260°C 77 units / lot
	Electrical Test: + 25°C System: TMT_TCG_NT		231(0)	0/231	Pass	

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: TMT TCG NT		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	J-STD- 002	22 (0)	22 22 0/22	Pass	
Physical Dimensions	Physical Dimension, 10 units from 1 lot	JESD22- B100/B108	30(0) Units	0/30	Pass	
Bond Strength Data Assembly	Wire Pull (> 4.00 grams)	Mil.Std. 883-2011	30 (0) Wires	0/30	Pass	
	Bond Shear (>25.00 grams)	CDF-AEC- Q100-001	30 (0) bonds	0/30	Pass	