Product Change Notification / MFOL-12SBEE528

Date:

28-Oct-2022

Product Category:

PON ONU/OLT Devices, SAS Silicon & SW, SONET/SDH/T1/E1 Devices

PCN Type:

Manufacturing Change

Notification Subject:

CCB 5284 Final Notice: Qualification of GX92 as a new substrate material for PM8005C-F3EI, PM8004C-F3EI, XYRPM8005C-F3EI, XYRPM8004C-F3EI, PAS5211A-F3EI, and PM5369-FEI catalog part numbers (CPN) available in 592L BGA (27x27x2.24mm), 896L BGA (31x31x2.24mm), and 672L BBGA (27x27x3.32mm) packages assembled at STAK assembly site.

Affected CPNs:

MFOL-12SBEE528_Affected_CPN_10282022.pdf
MFOL-12SBEE528_Affected_CPN_10282022.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 GX92 as a new substrate material for PM8005C-F3EI, PM8004C-F3EI, XYRPM8005C-F3EI, XYRPM8004C-F3EI, PAS5211A-F3EI, and PM5369-FEI catalog part numbers (CPN) available in 592L BGA (27x27x2.24mm), 896L BGA (31x31x2.24mm), and 672L BBGA (27x27x3.32mm) packages assembled at STAK assembly site.

Pre and Post Change Summary:

	Pre Change	Post Change
Assembly Site	STATS CHIPPAC KOREA LTD. (STAK)	STATS CHIPPAC KOREA LTD. (STAK)
Die Attach Material	WF6317	WF6317
Underfill material	U8410-73C	U8410-73C
Solder Ball	SAC305	SAC305
Substrate Material	GX3	GX92

Impacts to Data Sheet: None

Change Impact: None

Reason for Change: To improve manufacturability by qualifying GX92 as a new substrate material.

Change Implementation Status: In Progress

Estimated First Ship Date: November 20, 2022 (date code: 2248)

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

Time Table Summary:

	October 2022					November 2022			
Workweek	41	42	43	44	45	46	47	48	49
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: October 28, 2022: Issued final notification.

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

Attachments:

PCN_MFOL-12SBEE528_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.

QUALIFICATION REPORT SUMMARY

RELIABILITY LABORATORY

PCN #: MFOL-12SBEE528

Date:
August 3, 2022

Qualification of GX92 as a new substrate material for PM8005C-F3EI, PM8004C-F3EI, XYRPM8005C-F3EI, XYRPM8004C-F3EI, PAS5211A-F3EI, and PM5369-FEI catalog part numbers (CPN) available in 592L BGA (27x27x2.24mm), 896L BGA (31x31x2.24mm), and 672L BBGA (27x27x3.32mm) packages assembled at STAK assembly site.

PACKAGE QUALIFICATION REPORT

Purpose	Qualification of GX92 as a new substrate material for PM8005C-F3EI, PM8004C-F3EI, XYRPM8005C-F3EI, XYRPM8004C-F3EI, PAS5211A-F3EI, and PM5369-FEI catalog part numbers (CPN) available in 592L BGA (27x27x2.24mm), 896L BGA (31x31x2.24mm), and 672L BBGA (27x27x3.32mm) packages assembled at STAK assembly site.
CCB	5284 and 4734
CN	ES000101185
QUAL ID	R2200792 rev. A
MP CODE	STA5699DCA01
Part No.	RM2940A-F3EC
Bonding No.	BD-000407 Rev 01

Package

Type	395ball FBGA
Package size	17 x 17 x 2.14 mm

Substrate

Core Material	E705G
Process	GX92

MICROCHIP

PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
ATK-230100028.000	TC12922376043.100	2214CME
ATK-230100029.000	TC12922376043.100	2214CMG
ATK-230100030.000	TC12922376043.100	2214CMH

Result [X] Pass [ ] Fail [ ] ____________________

395ball FBGA (17x17x2.14 mm) assembled by ATK pass reliability test per QCI-39000. This package was qualified the Moisture/Reflow Sensitivity Classification Level 4 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
Precondition Prior Perform Reliability Tests (At MSL Level 4)	**Electrical Test:** +105°C System: Tester: V93K_C400 Handler: PNP_X4	JESD22-A113	150 (0)	150		Good Devices
	Bake 150°C, 24 hrs System: Oven chamber	JIP/ IPC/JEDEC J-STD-020E		150		
	30°C/60%RH Moisture Soak 96 hrs. System: Soak chamber			150		
	3x Convection-Reflow 260°C max System: Heat convection reflow			150		
	Electrical Test: +105°C System: Tester: V93K_C400 Handler: PNP_X4			0/150	Pass	

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
Temp Cycle	**Stress Condition:** -55°C to +125°C, 500 Cycles System: Hot and cold chamber	JESD22-A104		75		Parts had been pre-conditioned at 250°C
	Electrical Test: +105°C System: Tester: V93K_C400 Handler: PNP_X4		75(0)	0/75	Pass	25 units / lot
	Stress Condition: -55°C to +125°C, 1000 Cycles System: Hot and cold chamber			75		
	Electrical Test: +105°C System: Tester: V93K_C400 Handler: PNP_X4		75(0)	0/75	Pass	
UNBIASED-HAST	**Stress Condition:** +110°C/85%RH, 264 hrs. System: Hot and moisture chamber	JESD22-A110		75		Parts had been pre-conditioned at 250°C
	Electrical Test: +105°C System: Tester: V93K_C400 Handler: PNP_X4		75(0)	0/75	Pass	25 units / lot
High Temperature Storage Life	**Stress Condition:** Bake 150°C, 504 hrs System: Oven chamber	JESD22-A103		75		25 units / lot
	Electrical Test: +105°C System: Tester: V93K_C400 Handler: PNP_X4		75(0)	0/75	Pass	
	Stress Condition: Bake 150°C, 1008 hrs System: Oven chamber			75		
	Electrical Test: +105°C System: Tester: V93K_C400 Handler: PNP_X4		75(0)	0/75	Pass	

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
Shadow Moiré	Unstressed sample Shadow Moiré	JESD22- B112 A	5(0) Units	0/5	Pass	
Solder Ball Shear	Solder Ball Shear	JESD22- B117A	5(0) Units	0/5	Pass	
Coplanarity	Coplanarity	JESD22- B108A/POD	5(0) Units	0/5	Pass	

MFOL-12SBEE528 - CCB 5284 Fi PM8004C- XYRPM80(XYRPM80(PAS5211A- and PM53(896L BGA (and 672L B

Affected Catalog Part Numbers(CPN)

PM8005C-F3EI
PM8004C-F3EI
XYRPM8005C-F3EI
XYRPM8004C-F3EI
PM5369-FEI
PAS5211A-F3EI