Product Change Notification / CENO-13WQJN777

Date:

16-Feb-2023

Product Category:

Clock and Timing - Clock and Data Distribution

PCN Type:

Manufacturing Change

Notification Subject:

CCB 5163 Final Notice: Qualification of MMT as an additional assembly site for selected SY100EPTxxxxx, SY100ELTxxxxx, SY100EL3xxxx and SY100EL1xxxx device families available in 8L SOIC (3.90mm) package.

Affected CPNs:

CENO-13WQJN777_Affected_CPN_02162023.pdf
CENO-13WQJN777_Affected_CPN_02162023.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 MMT as an additional assembly site for selected SY100EPTxxxxx, SY100ELTxxxxx, SY100EL3xxxx and SY100EL1xxxx device families available in 8L SOIC (3.90mm) package.

Pre and Post Change Summary:

	Pre Change		Post Change		
Assembly Site	Stars Microelectronics (Thailand) Public Company Limited (STAR)	Unisem (M) Berhad Perak, Malaysia (UNIS)	Stars Microelectronics (Thailand) Public Company Limited (STAR)	Unisem (M) Berhad Perak, Malaysia (UNIS)	Microchip Technology Thailand (Branch) – (MMT)
Wire Material	Au	Au	Au	Au	Au
Die Attach Material	2200D	8290	2200D	8290	8390A
Molding Compound Material	G600	G600KA	G600	G600KA	G600V
Lead-Frame Material	CDA194	CDA194	CDA194	CDA194	CDA194
Lead-Frame Paddle Size	95x130 mils	80x80 mils	95x130 mils	80x80 mils	90x90 mils
	See attached Pre and Post Change comparison				
DAP Surface Prep	NiPdAu	NiPdAu	NiPdAu	NiPdAu	Ag Spot
	See attached Pre and Post Change comparison				

Impacts to Data Sheet: None

Change Impact: None

Reason for Change: To improve productivity by qualifying MMT as an additional assembly site.

Change Implementation Status: In Progress

Estimated First Ship Date: March 15, 2023 (date code: 2311)

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

Time Table Summary:

	June 2022					>	February 2023				March 2023				
Workweek	23	24	25	26	27		05	06	07	08	09	10	11	12	13
Initial PCN Issue Date			x												
Qual Report									x						

Availability															
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: June 16, 2022: Issued Initial notification.
February 16, 2023: Issued final notification. Attached the Qualification Report. Provided estimated first ship date to be on March 15, 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_CENO-13WQJN777 Pre and Post_Change_Summary.pdf
PCN_CENO-13WQJN777_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.

CCB 5163
Pre and Post Change Summary
PCN #: CENO-13WQJN777

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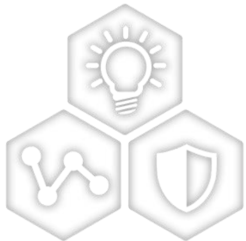
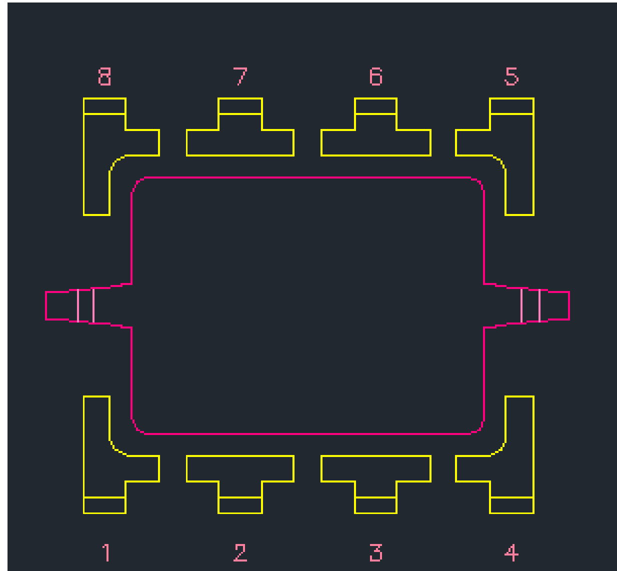


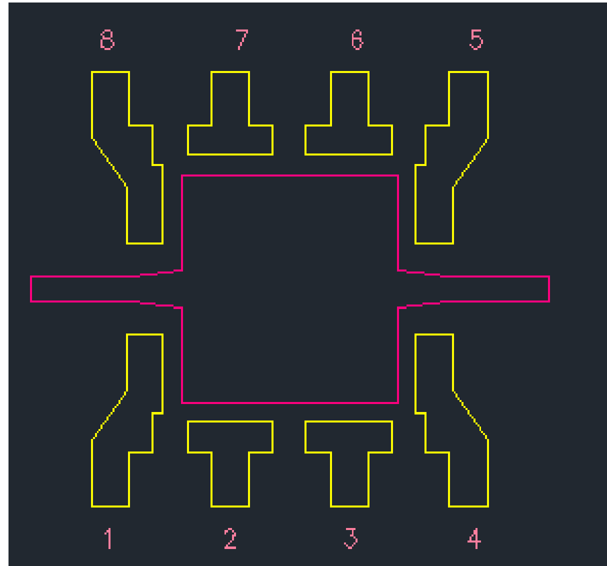
LEAD FRAME COMPARISON

STAR	UNIS	MMT



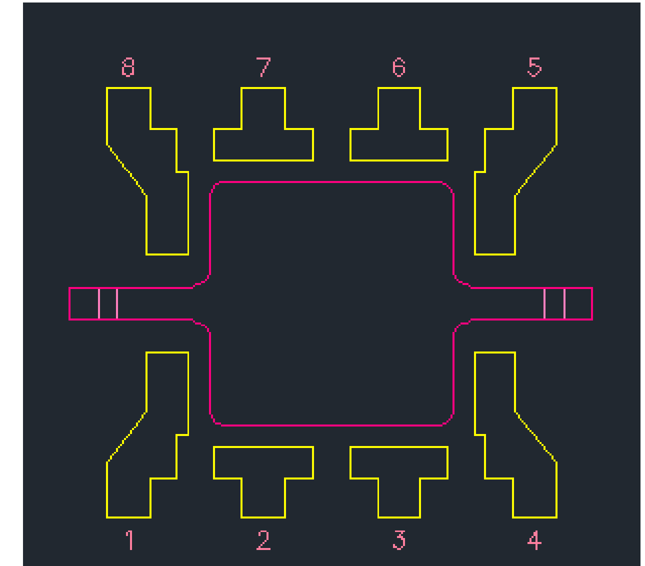
Note: Not to scale

Lead frame DAP surface prep	NiPdAu
Lead Plating	NiPdAu
Lead-Frame Paddle Size	95x130 mils



Note: Not to scale

Lead frame DAP surface prep	NiPdAu
Lead Plating	NiPdAu
Lead-Frame Paddle Size	80x80 mils



Note: Not to scale

Lead frame DAP surface prep	Ag Spot
Lead Plating	Matte Tin
Lead-Frame Paddle Size	90x90 mils

Affected Catalog Part Numbers (CPN)

SY100EPT28LZG
SY100EPT21LZG
SY100ELT21LZG
SY100EPT20VZG
SY100EPT22VZG
SY100EL33LZG
SY100EPT23LZG
SY100ELT23LZG
SY100EL11VZG
SY100EL32VZG
SY100ELT22ZG
SY100EL16VZG
SY100ELT22LZG
SY100ELT23ZG
SY100EPT28LZG-TR
SY100EPT21LZG-TR
SY100ELT21LZG-TR
SY100EPT20VZG-TR
SY100EPT22VZG-TR
SY100EL33LZG-TR
SY100EPT23LZG-TR
SY100ELT23LZG-TR
SY100EL11VZG-TR
SY100EL32VZG-TR
SY100ELT22ZG-TR
SY100EL16VZG-TR
SY100ELT22LZG-TR
SY100ELT23ZG-TR

QUALIFICATION REPORT SUMMARY

RELIABILITY LABORATORY

PCN ID#: CENO-13WQJN777

Date:
February 7, 2023

Qualification of MMT as an additional assembly site for selected SY100EPTxxxxx, SY100ELTxxxxx, SY100EL3xxxx and SY100EL1xxxx device families available in 8L SOIC (3.90mm) package.

MICROCHIP

PACKAGE QUALIFICATION REPORT

Purpose	Qualification of MMT as an additional assembly site for selected SY100EPTxxxxx, SY100ELTxxxxx, SY100EL3xxxx and SY100EL1xxxx device families available in 8L SOIC (3.90mm) package.
CCB	5163
CN	E000115395
QUAL ID	R2200850 Rev. A
MP CODE	2C6087C2XC14
Part No.	SY100ELT23LZG
Bonding No.	BD-000759 Rev.01
Package	
Type	8L SOIC
Package size	150 mils
Lead Frame	
Paddle size	90 x 90 mils
Material	CDA194
Surface	Ag Spot
Process	Stamped
Lead Lock	No
Part Number	10100808
Treatment	Non-Roughening
Material	
Epoxy	8390A
Wire	Au wire
Mold Compound	G600V
Plating Composition	Matte Sn

MICROCHIP

PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
MMT-231301241.000	MCSO521470053.100	2226V32
MMT-231301368.000	MCSO521470053.100	22263UP
MMT-231301367.000	MCSO521470053.100	22260D4

Result [X] Pass [ ] Fail [ ] ____________________

8L SOIC (150 mils) assembled by MMT 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
Precondition Prior Perform Reliability Tests (At MSL Level 1)	**Electrical Test:** +25°C and 95°C System: F660	JESD22-A113	693(0)	0/693		Good Devices
	Bake 150°C, 24 hrs. System: CHINEE	JIP/ IPC/JEDEC J-STD-020E		0/693		
	85°C/85%RH Moisture Soak 168 hrs. System: TABAI ESPEC Model PR-3SPH			0/693		
	3x Convection-Reflow 265°C max System: Vitronics Soltec MR1243			0/693		
	Electrical Test: +25°C and 95°C System: F660		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	JESD22-A104		0/231		Parts had been pre-conditioned at 260°C
	Electrical Test: +95°C System: F660		231(0)	0/231	Pass	77 units / lot
	Bond Strength: Wire Pull (>6.00 grams)		15(0)	0/15	Pass	
	Bond Shear (>22.00 grams)		15(0)	0/15	Pass	
UNBIASED-HAST	**Stress Condition:** +130°C/85%RH, 96 hrs. System: HAST 6000X	JESD22-A118		0/231		Parts had been pre-conditioned at 260°C
	Electrical Test: +25°C System: F660		231(0)	0/231	Pass	77 units / lot
HAST	**Stress Condition:** +130°C/85%RH, 96 hrs. **Bias Volt:** 3.3 Volts System: HAST 6000X	JESD22-A110		0/231		Parts had been pre-conditioned at 260°C
	Electrical Test: +25°C and 95°C System: F660		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 95°C System: F660	JESD22-A103	45(0)	0/45 0/45	Pass	45 units
Solderability Temp 215°C	**Steam Aging:** Temp 93°C,8Hrs System: SAS-3000 Solder Dipping: Solder Temp.215°C Solder material: SnPb Sn63, Pb37 System: ERSA RA 2200D Visual Inspection: External Visual Inspection	J-STD-002	22(0)	0/22 0/22 0/22	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	J-STD-002	22(0)	0/22 0/22 0/22	Pass	
Wire sweep	Wire sweep Inspection 15 Wires / lot	-	45(0) Wires	0/45	Pass	
Bond Strength Data Assembly	Wire Pull (>6.00 grams)	Mil. Std. 883-2011	30(0) Wires	0/30	Pass	
	Bond Shear (>22.00 grams)	CDF-AEC-Q100-001	30(0) bonds	0/30	Pass	