



Product Change Notification / ALAN-13SUCS155

Date:

14-Jun-2022

Product Category:

PoE PSE, Reverse Power Feed

PCN Type:

Manufacturing Change

Notification Subject:

CCB 4826 Final Notice: Qualification of TJS5 as an additional fabrication site for PD69208T4ILO-TR-LE, PD81101ILO-TR-LE, PD69208MILQ-TR-LE, PD69204T4ILO-TR-LE, and PD39208ILO-TR-LE catalog part numbers (CPN) in 56L VQFN (8x8x1.0mm) package.

Affected CPNs:

[ALAN-13SUCS155_Affected_CPN_06142022.pdf](#)

[ALAN-13SUCS155_Affected_CPN_06142022.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 TJS5 as an additional fabrication site for PD69208T4ILO-TR-LE, PD81101ILO-TR-LE, PD69208MILQ-TR-LE, PD69204T4ILO-TR-LE, and PD39208ILO-TR-LE catalog part numbers (CPN) in 56L VQFN (8x8x1.0mm) package.

Pre and Post Change Summary:

Pre Change	Post Change
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Fabrication Location	TowerJazz – Fab2 (TJM2)			TowerJazz – Fab2 (TJM2)			TowerJazz Panasonic Semiconductor Co., LTD. (TJS5)		
Wafer Size	8" inch			8" inch			8" inch		
ISO	ISO-9001 CERTIFIED	IATF16949 CERTIFIED	ISO-14001 CERTIFIED	ISO-9001 CERTIFIED	IATF16949 CERTIFIED	ISO-14001 CERTIFIED	ISO-9001 CERTIFIED	IATF16949 CERTIFIED	ISO-14001 CERTIFIED

Impacts to Data Sheet:None

Change Impact:None

Reason for Change:To improve manufacturability and on-time delivery performance by qualifying TowerJazz Panasonic Semiconductor Co., LTD. (TJS5) as an additional fabrication site.

Change Implementation Status:In Progress

Estimated First Ship Date:June 28, 2022 (date code: 2227)

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

Time Table Summary:

	November 2021					>	June 2022				
Workweek	4	4	4	4	4		2	2	2	2	2
	5	6	7	8	9		3	4	5	6	7
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:November 24, 2021: Issued initial notification.

June 14, 2022: Issued final notification. Attached the Qualification Report. Provided estimated first ship date to be on June 28, 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 ALAN-13SUCS155 Qual Report.pdf](#)

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

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QUALIFICATION REPORT SUMMARY

PCN #: ALAN-13SUCS155

**Date:
May 31, 2022**

Qualification of TJS5 as an additional fabrication site for PD69208T4ILQ-TR-LE, PD81101ILQ-TR-LE, PD69208MILQ-TR-LE, PD69204T4ILQ-TR-LE, and PD39208ILQ-TR-LE catalog part numbers (CPN) in 56L VQFN (8x8x1.0mm) package.

I. Summary:

Qualification of TJS5 as an additional fabrication site for PD69208T4ILQ-TR-LE, PD81101ILQ-TR-LE, PD69208MILQ-TR-LE, PD69204T4ILQ-TR-LE, and PD39208ILQ-TR-LE catalog part numbers (CPN) in 56L VQFN (8x8x1.0mm) package.

II. Device Description:

Device	PD69208M
Mask	VJH11
Process	0.18um
Product Description	IEEE 802.3at / bt Type 3 8 ports, Fully Integrated PSE Manager, Industrial Temp.
Document Control Number	ML0520220084
Document Revision	A

III. Qualification Material:

Test / Lot	Lot 1	Lot 2	Lot 3
DEVICE	PD69208M V2R5	PD69208M V2R5	PD69208M V2R5
MASK, REV	VJH11; Rev A4	VJH11; Rev A4	VJH11; Rev A4
WAFER FAB	TPSCo Japan	TPSCo Japan	TPSCo Japan
WAFER PROCESS	0.18um	0.18um	0.18um
WAFER LOT	EBPN691701AP	EBPN691801AP	TJS5922302674.100
ASSEMBLY LOT	EBPN691701AP-4	EBPN691801AP-4	NSEB224300484.000
TRACE CODE	1728TAB	1729TAE	22034CM
PACKAGE	56L VQFN 8x8x1.0mm	56L VQFN 8x8x1.0mm	56L VQFN 8x8x1.0mm
ASSEMBLY SITE	NSEB-THAILAND	NSEB-THAILAND	NSEB-THAILAND
TEST LOCATION	Garden Grove, CA-USA		
QUAL PROJECT#	42025-1	42025-2	42025-3
QUAL TESTS	HTOL, PRECOND, HTSL, HAST, UHAST, TC, PCA (Package Construction Analysis).	HTOL, PRECOND, HTSL, HAST, UHAST, TC.	HTOL, ESD.

BOM TABLE

Misc.	Assembly site	NSEB
	BD Number	D-034107/B
	MP Code (MPC)	VJH11T5HCA07
	Part Number (CPN)	PD69208MILQ-TR-LE
	MSL information	MSL-1/260
	Assembly Shipping Media (T/R, Tube/Tray)	Tray
	Base Quantity Multiple (BQM)	2000
	Reliability Site	N/A
	CCB No	4826
Lead-Frame	Paddle size	272x272 mils
	Material	C194
	DAP Surface Prep	NiPdAu
	Treatment	No
	Process	Etched
	Lead-lock	Yes
	Part Number	FR1165
	Lead Plating	NiPdAu-PPF
	Strip Size	250x70 mm
Strip Density	175 units/strip	
Bond Wire	Material	CuPdAu
Die Attach	Part Number	590-4HT1
	Conductive	Yes
MC	Part Number	G700LTD
PKG	PKG Type	VQFN
	Pin/Ball Count	56
	PKG width/size	8x8x1.0mm

IV. Qualification Data:

High Temperature Operating Life (HTOL):

Test Method/ Condition	JESD22, Method 108, Tj = + 130°C, VCC = +57.0V, 1000 HR		
Lot #	Results (Fail/SS)		Minimum SS = 77
Lot 1: EBPN691701AP-4	0/80 @168hrs	0/80 @500hrs	0/80 @1000hrs
Lot 2: EBPN691801AP-4	0/80 @168hrs	0/80 @500hrs	0/80 @1000hrs
Lot 3: NSEB224300484.000	0/80 @168hrs	0/80 @500hrs	0/80 @1000hrs

Pre and Post testing was conducted at +25°C, -40°C & +85°C.

ESD-HBM/CDM

Test	Reference Method	Fail/Pass	Result
HBM	JEDEC JS-001	$\pm 500V$ 0/3 $\pm 1000V$ 0/3 $\pm 1500V$ 0/3 $\pm 2000V$ 0/3	Pass $\pm 2000V$
CDM	AEC-Q100-011	$\pm 250V$ 0/3 $\pm 500V$ 0/3 $\pm 750V$ 0/3 $\pm 1000V$ 0/3	Pass $\pm 1000V$

Pre and Post testing was conducted at +25°C.

Package Preconditioning:

Test Method/Condition	JEDEC J-STD-020 / JESD22-A113, MSL1 (+85°C/85%RH) 168hours, 3x Reflow @ +260°C (+0/-5C) Peak Reflow Temperature.	
Lot #	Results (Fail/SS)	Minimum SS = 246
Lot 1: EBPN691701AP-4	0/266	CSAM/PASS
Lot 2: EBPN691801AP-4	0/266	CSAM/PASS

Pre and Post testing was conducted at +25°C and +85°C.

HTSL (High Temperature Storage Life)

Test Method/Condition	JESD22-A113 @ MSL1, 3x IR @ +260°C; JESD22-A103, Ta = +150 °C, 1000 HRS.		
Lot #	Results (Fail/SS)	Minimum SS = 25	
Lot 1: EBPN691701AP-4	0/25	CSAM/PASS	
Lot 2: EBPN691801AP-4	0/25	CSAM/PASS	

Pre and Post testing was conducted at +25°C & +85°C.

HAST (Highly Accelerated Temperature and Humidity Stress Test)

Test Method/Condition	JESD22-A113 @ MSL1, 3x IR @ +260°C; JESD22-A110, Vin = +33.5 V, Ta = +130°C/85%RH, 192 HRS.		
Lot #	Results (Fail/SS)	Minimum SS = 20	
Lot 1: EBPN691701AP-4	0/20 @96hrs 0/20 @192hrs	CSAM/PASS	
Lot 2: EBPN691801AP-4	0/20 @96hrs 0/20 @192hrs	CSAM/PASS	

Pre and Post testing was conducted at +25°C & +85°C.

TC (Temperature Cycling)

Test Method/Condition	JESD22-A113 @ MSL1, 3x IR @ +260°C; JESD22-A104, Test Condition C, (-65C / +150C), 1000 Cycles.		
Lot #	Results (Fail/SS)	Minimum SS = 77	
Lot 1: EBPN691701AP-4	0/77	CSAM/PASS	WBP/PASS
Lot 2: EBPN691801AP-4	0/77	CSAM/PASS	

Pre and Post testing was conducted at +25°C & +85°C.

UHASt (Un-bias HAST)

Test Method/Condition	JESD22-A113 @ MSL1, 3x IR @ +260°C; UHASt JESD22 A118 (Ta =+130°C/85% RH) 192 hours.
Lot #	Results (Fail/SS)
Lot 1: EBPN691701AP-4	0/77 @96hrs 0/77 @192hrs
Lot 2: EBPN691801AP-4	0/77 @96hrs 0/77 @192hrs

Pre and Post testing was conducted at +25°C.

PCA (Package Construction Analysis) reference FA#2022-00926

Test Method/Condition	Zero-hour decap and visual inspection.
Lot #	Results
Lot 1: EBPN691701AP-4	PASS

V. Conclusion:

Based on the results, the PD69208M, mask# VJH11 complies with the reliability guidelines in Microchip. Therefore, this part can be released to production.

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Affected Catalog Part Numbers (CPN)

PD69208T4ILQ-TR-LE

PD81101ILQ-TR-LE

PD69208MILQ-TR-LE

PD69204T4ILQ-TR-LE

PD39208ILQ-TR-LE