



## Product Change Notification / ALAN-26BLQH755

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**Date:**

01-Mar-2023

**Product Category:**

PoE PSE, Reverse Power Feed

**PCN Type:**

Silicon Die Revision

**Notification Subject:**

eSign# E000162118 Final Notice: Implement silicon die revision B1 for PD69208T4ILQ-TR-LE, PD69208MILQ-TR-LE, PD69204T4ILQ-TR-LE, PD39208ILQ-TR-LE, and PD81101ILQ-TR-LE catalog part numbers in 56L VQFN (8x8x1.0mm) package.

**Affected CPNs:**

[ALAN-26BLQH755\\_Affected\\_CPN\\_03012023.pdf](#)

[ALAN-26BLQH755\\_Affected\\_CPN\\_03012023.csv](#)

**Notification Text:**

**PCN Status:**Final Notification

**PCN Type:**Silicon Die Revision

**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:**Implement silicon die revision B1 (also known as V2R6) for PD69208T4ILQ-TR-LE, PD69208MILQ-TR-LE, PD69204T4ILQ-TR-LE, PD39208ILQ-TR-LE, and PD81101ILQ-TR-LE catalog part numbers in 56L VQFN (8x8x1.0mm) package.

**Pre and Post Change Summary:**

	Pre Change	Post Change
Silicon Die Revision	A4	B1

**Impacts to Data Sheet:**None

**Change Impact:**None

**Reason for Change:**To Improve on time delivery performance and manufacturability: Make improvements to flow where capacity is an issue. To make more suitable for use.

**Change Implementation Status:**In Progress

**Estimated First Ship Date:**March 31, 2023

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

**Time Table Summary:**

	March 2023				
Workweek	9	10	11	12	13
Qual Report Availability	X				
Final PCN Issue Date	X				
Estimated Implementation Date					X

**Method to Identify Change:**Traceability Code, Top marking

Top Mark change reflected on PCN**JAON-09FELG311**.

	Pre Change	Post Change
Top Mark	Marking Line 3	Marking Line 3

	V2R4: LE	V2R4: LE
	V2R5: ZZ	V2R5: ZZ
		V2R6: RR

**Qualification Report:** Please open the attachments included with this PCN labeled as PCN\_#\_Qual\_Report.

**Revision History:** March 1, 2023: 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\\_ALAN-26BLQH755 Qualification Report.pdf](#)

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

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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.

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ALAN-26BLQH755 - eSign# E000162118 Final Notice: Implement silicon die revision B1 for PD69208T4ILQ-TR-LE, PD69208MILQ-TR-LE, PD69204T4ILQ-TR-LE, PD39208ILQ-TR-LE, and PD81101ILQ-TR-LE catalog part numbers in 56L VQFN (8x8x1.0mm) package.

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Affected Catalog Part Numbers (CPN)

PD69208T4ILQ-TR-LE

PD69208MILQ-TR-LE

PD69204T4ILQ-TR-LE

PD39208ILQ-TR-LE

PD81101ILQ-TR-LE



## **QUALIFICATION REPORT SUMMARY**

**PCN#: ALAN-26BLQH755**

**Date:**

**February 23, 2023**

**Implement silicon die revision B1 for PD69208T4ILQ-TR-LE, PD69208MILQ-TR-LE, PD69204T4ILQ-TR-LE, PD39208ILQ-TR-LE, and PD81101ILQ-TR-LE catalog part numbers in 56L VQFN (8x8x1.0mm) package.**

## I. Purpose:

Implement silicon die revision B1 for PD69208T4ILQ-TR-LE, PD69208MILQ-TR-LE, PD69204T4ILQ-TR-LE, PD39208ILQ-TR-LE, and PD81101ILQ-TR-LE catalog part numbers in 56L VQFN (8x8x1.0mm) package.

## II. Device Description:

Device	PD69208M / PD69208T4
Mask	VJH11
MSL	5579
Product Description	IEEE 802.3at / bt Type 3, 8 ports, Fully Integrated PSE Manager, Industrial Temp.
Document Control Number	ML022023008L
Document Revision	A

## III. Qualification Material:

Test / Lot	Lot 1	Lot 2	Lot 3 A	Lot 3 B
DEVICE	PD69208x V2R5	PD69208x V2R5	PD69208x V2R5	PD69208x V2R6 (Metal Fix)
MASK, REV	VJH11; Rev A4	VJH11; Rev A4	VJH11; Rev A4	VJH11; Rev A6
WAFER FAB	TPSCo Japan			
WAFER LOT	EBPN691701AP	EBPN691801AP	TJS5922302674.100	TJS5922302674.100
ASSEMBLY LOT	EBPN691701AP-4	EBPN691801AP-4	NSEB224300484.000	NSEB224300484.000
TRACE CODE	1728TAB	1729TAE	22034CM	22034CM
PACKAGE	56L VQFN 8x8x1.0mm			
ASSEMBLY SITE	UTL-THAILAND			
TEST LOCATION	Garden Grove, CA-USA & ASE Malaysia			
QUAL PROJECT#	42025-1	42025-2	42025-3	42025-4
QUAL TESTS	HTOL, PRECOND, HTSL, HAST, UHAST, TC, PCA (Package Construction Analysis),	HTOL, PRECOND, HTSL, HAST, UHAST, TC,	HTOL, ESD	HTOL

## BOM TABLE

<b><u>Misc.</u></b>	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
<b><u>Lead-Frame</u></b>	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
<b><u>Bond Wire</u></b>	Material	CuPdAu
<b><u>Die Attach</u></b>	Part Number	590-4HT1
	Conductive	Yes
<b><u>MC</u></b>	Part Number	G700LTD
<b><u>PKG</u></b>	PKG Type	VQFN
	Pin/Ball Count	56
	PKG width/size	8x8x1.0mm

## 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 3A: NSEB224300484.000	0/80 @168hrs	0/80 @500hrs	0/80 @1000hrs
Lot 3B: NSEB224300484.000	0/80 @168hrs		

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	PASS	
Lot 2: EBPN691801AP-4	0/266	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	PASS	
Lot 2: EBPN691801AP-4	0/25	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	PASS	
Lot 2: EBPN691801AP-4	0/20 @96hrs      0/20 @192hrs	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      PASS	WBP/PASS	
Lot 2: EBPN691801AP-4	0/77      PASS		

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

## UHAIST (Un-bias HAST)

Test Method/Condition	JESD22-A113 @ MSL1, 3x IR @ +260°C; UHAIST 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

## Conclusion:

Based on the results, the PD69208M / PD69208T4 (v2r6), mask# VJH11 complies with the reliability guidelines in Microchip. Therefore, this part can be released to production.