Product Change Notification / ALAN-26BLQH755

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 V2R5: ZZ	V2R4: LE 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.

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

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

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

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	±500V 0/3 ± 1000V 0/3 ± 1500V 0/3 ± 2000V 0/3	Pass ± 2000V
CDM	AEC-Q100-011	± 250V 0/3 ± 500V 0/3 ± 750V 0/3 ± 1000V 0/3	Pass ± 1000V

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

Package Preconditioning:

Test Method/Condition	JEDEC J-STD-020 / JESD22-A113, MSL1 (+85ºC/85%RH) 168hours, 3x Reflow @ +260ºC (+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 +25ºC and +85ºC.

HTSL (High Temperature Storage Life)

Test Method/Condition	JESD22-A113 @ MSL1, 3x IR @ +260°C; JESD22-A103, Ta = +150 ºC, 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 +25ºC & +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 = +130ºC/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 +25ºC & +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 +25ºC & +85°C.

UHAST (Un-bias HAST)

Test Method/Condition	JESD22-A113 @ MSL1, 3x IR @ +260°C; UHAST JESD22 A118 (Ta =+130ºC/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 +25ºC.

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.

ALAN-26BLQH755 - eSigr PD69208M PD69204T PD39208IL and PD81101ILQ-TR-LE catalog part numbers

Affected Catalog Part Numbers(CPN)

PD69208T4ILQ-TR-LE
PD69208MILQ-TR-LE
PD69204T4ILQ-TR-LE
PD39208ILQ-TR-LE
PD81101ILQ-TR-LE