Product Change Notification / JAON-22JTSR169

Date:

27-Jul-2021

Product Category:

Low-Med Voltage Power Modules

PCN Type:

Manufacturing Change

Notification Subject:

CCB 3583.001 Final Notice: Qualification of MSL 3 for selected Micrel MIC28303 and MIC28304 device families available in 64L B1QFN (12x12x3mm) package assembled at UNIS assembly site.

Affected CPNs:

JAON-22JTSR169_Affected_CPN_07272021.pdf
JAON-22JTSR169_Affected_CPN_07272021.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 MSL 3 for selected Micrel MIC28303 and MIC28304 device families available in 64L B1QFN (12x12x3mm) package assembled at UNIS assembly site.

Pre and Post Change Summary:

	Pre Change	Post Change
Assembly Location	Unisem (M) Berhad Perak, Malaysia (UNIS)	Unisem (M) Berhad Perak, Malaysia (UNIS)

Moisture Sensitivity Level (MSL)	MSL 2	MSL 3

Impacts to Data Sheet: None

Change Impact: None

Reason for Change: To improve productivity by qualifying MSL 3.

Change Implementation Status:In Progress

Estimated First Ship Date: September 24, 2021 (date code: 2139)

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

Time Table Summary:

	July 2021					->	**September 2021**				
Workweek	27	28	29	30	31		36	37	38	39	40
Qual Report Availability					X						
Final PCN Issue Date					X						
Estimated first ship 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:July 27, 2021: 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_JAON-22JTSR169_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.

Affected Catalog Part Numbers (CPN)

MIC28303-1YMP-T1
MIC28303-1YMP-TR
MIC28303-2YMP-T1
MIC28303-2YMP-TR
MIC28304-1YMP-T1
MIC28304-1YMP-TR
MIC28304-2YMP-T1
MIC28304-2YMP-TR

PACKAGE QUALIFICATION REPORT

PCN #: JAON-22JTSR169

Date:

July 22, 2021

Qualification of MSL 3 for selected Micrel MIC28303 and MIC28304 device families available in 64L B1QFN (12x12x3mm) package assembled at UNIS assembly site.

DEVICE DESCRIPTION:

Device	MIC28304-2YMP (35015YM2AA08)
Mask	35015
Document Control Number	ML#092019005A
Document Revision	A
CCB No.	3583.001

PACKAGE QUALIFICATION MATERIAL:

Test Lot	Lot 1	Lot 2	Lot 3
Device	MIC28304-2YMP	MIC28304-2YMP	MIC28304-2YMP
Wafer Lot	MCSO519039929.100	MCSO519039929.100	MCSO519039929.100
Assembly Lot	UNIS200100056.000	UNIS200100068.000	UNIS200100069.000
Package Type	B1QFN 12x12x3mm-64L	B1QFN 12x12x3mm-64L	B1QFN 12x12x3mm-64L
Qualification Tests	Preconditioning, HAST,UHAST, TC, HTSL	Preconditioning, HAST,UHAST, TC	Preconditioning, HAST,UHAST, TC

PACKAGE BOM:

Misc.	Assembly site	UNIS
	BD Number	BDM-001985b
	MP Code (MPC)	35015YM2AA08
	Part Number (CPN)	MIC28304-2
Lead-Frame	Paddle size	96 mils x 394 mils
	Material	C194
	Process	Etch
	Part Number	40400059
	Lead Plating	Ag
Bond Wire	Material	Au
Die Attach	Part Number	84-1 LMISR4
	Conductive	Y
MC	Part Number	G770 HCD
PKG	PKG Type	B1QFN (M2A)
	Pin/Ball Count	64
	PKG width/size	12 x 12 x 3.0 mm

QUALIFICATION DATA:

Package Preconditioning:

Test Method/Condition	JEDEC J-STD-020 and JESD22-A113, MSL Level 3 soak at 30ºC/60%RH/192HRS and 260ºC peak Reflow Temperature
Lot #	ATE Test Results (Fail/Pass)
Lot 1	0/255
Lot 2	0/255
Lot 3	0/255

Pre and Post testing was conducted at +25◦C and +125◦C

HAST (Highly Accelerated Temperature and Humidity Stress Test)

Test Method/Condition	JESD22-A110, Vin = +20V, Ta = +130ºC/85%RH, 96 HRS
Lot #	Results (Fail/Pass)
Lot 1	0/81
Lot 2	0/80
Lot 3	0/82

Pre and Post testing was conducted at +25◦C (Lot 1,2,3) and +85◦C (Lot 1) and +125◦C (Lot 1,2,3)

Unbiased HAST

Test Method/Condition	JESD22-A118, Ta = +130ºC/85%RH, 96HRS
Lot #	Results (Fail/Pass)
Lot 1	0/82
Lot 2	0/82
Lot 3	0/81

Pre and Post testing was conducted at +25◦C

Temperature Cycling

Test Method/Condition	JESD22-A104, Ta = -65ºC/+150 ºC, 500 Cycles
Lot #	Results (Fail/Pass)
Lot 1	0/82, WBP after TC pass
Lot 2	0/82
Lot 3	0/82

Pre and Post testing was conducted at +25◦C and +125◦C

High Temperature Storage Life

Test Method/Condition	JESD22-A103, Ta = +150 ºC, 1008 HRS
Lot #	Results (Fail/Pass)
Lot 1	0/50

Pre and Post testing was conducted at +25◦C

Solderability Tests (JESD22B-102E)

Test Method/Condition	JESD22B-102E	
Lot #	Results (Fail/Pass)	
Lot 1	Solder Dip (Rej / SS)	0/22
	Steam age (Rej / SS)	0/22
Lot 2	Solder Dip (Rej / SS)	0/22
	Steam age (Rej / SS)	0/22
Lot 3	Solder Dip (Rej / SS)	0/22
	Steam age (Rej / SS)	0/22