



Product Change Notification / KSRA-06MRSR308

Date:

07-Apr-2022

Product Category:

Clock and Timing - Oscillators

PCN Type:

Manufacturing Change

Notification Subject:

CCB 4610 Final Notice: Qualification of a new lead frame with Full PPF die attach paddle (DAP) surface prep material for DSC11xx, DSC12xx and DSC81xx device families available in 6L VDFN (7x5x0.9mm) package at NSEB assembly site.

Affected CPNs:

[KSRA-06MRSR308_Affected_CPN_04072022.pdf](#)

[KSRA-06MRSR308_Affected_CPN_04072022.csv](#)

Notification Text:

Notification Body:

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 a new lead frame with Full PPF die attach paddle (DAP) surface prep material for DSC11xx, DSC12xx and DSC81xx device families available in 6L VDFN (7x5x0.9mm) package at NSEB assembly site.

Pre and Post Change Summary:

Method to Identify Change:Traceability code

Qualification Report:Please open the attachments included with this PCN labeled as PCN_#_Qual_Report.

Revision History:

April 15, 2021: Issued initial notification.

April 07, 2022: Issued the final notification. Adjusted the timetable summary and included the estimated first ship date on April 30, 2022. Attached the qualification report.

The change described in this PCN does not alter Microchip’s current regulatory compliance regarding the material content of the applicable products.

Attachments:

[PCN_KSRA-06MRSR308_Qual Report.pdf](#)

[PCN_KSRA-06MRSR308_Pre and Post Change Summary.pdf](#)

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

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KSRA-06MRSR308 - CCB 4610 Final Notice: Qualification of a new lead frame with Full PPF die attach paddle (DAP) surface prep material for DSC11xxDSC12xx and DSC81xx device families available in 6L VDFN (7x5x0.9mm) package at NSEB assembly site.

Affected Catalog Part Numbers(CPN)

DSC1203NI2-148M5000
DSC1221NA1-27M00000
DSC1201NA3-PROG
DSC1203NA1-20M00000
DSC1211NA3-C0024
DSC1201NI2-129M6000
DSC1203NI1-100M0000
DSC1222NI2-156M2500
DSC1222NI2-150M0000
DSC1221NI2-125M0000
DSC1211NI3-C0018
DSC1224NI3-156M2500
DSC1213NI2-C0019
DSC1203NI2-148M3500
DSC1223NI1-100M0000
DSC1223NI1-135M0000
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DSC1203NI3-148M3500
DSC1222NI1-50M00000
DSC1200NL3-PROG
DSC1202NE2-156M2600
DSC1204NL3-122M8800
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DSC1221NE1-75M00000
DSC1204NL1-100M0000
DSC1201NE3-64M98000
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DSC1201NE3-64M08000
DSC1211NE3-C0021
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DSC1204NL1-100M0000T
DSC1201NE3-64M98000T
DSC1202NE2-156M2617T
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MICROCHIP

**QUALIFICATION REPORT
RELIABILITY LABORATORY**

PCN#: KSRA-06MRSR308

**Date:
March 11, 2022**

Qualification of a new lead frame with Full PPF die attach paddle (DAP) surface prep material for DSC11xx, DSC12xx and DSC81xx device families available in 6L VDFN (7x5x0.9mm) package at NSEB assembly site.



MICROCHIP **PACKAGE QUALIFICATION REPORT**

Purpose	Qualification of a new lead frame with Full PPF die attach paddle (DAP) surface prep material for DSC11xx, DSC12xx and DSC81xx device families available in 6L VDFN (7x5x0.9mm) package at NSEB assembly site.
CN	ES360894
QUAL ID	R2101055 Rev A
MP CODE	3610Q5HPA003
Part No.	D50N-M3
Bonding No.	BDM-002913 Rev. A
CCB#	4610
<u>Package</u>	
Type	6L VDFN
Package size	7 x 5 x 0.9 mm
<u>Lead Frame</u>	
Paddle size	COL
Material	C194
Surface	Full PPF
Process	Etched
Lead Lock	Yes
Part Number	FR1684
<u>Material</u>	
Epoxy	HR-5104 / 2200D
Wire	Au wire
Mold Compound	G700LTD
Plating Composition	NiPdAu



MICROCHIP PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.
NSEB220600085.000	TC03921434134.100
NSEB220600089.000	TC03921434134.100
NSEB220600090.000	TC03921434134.100

Result

Pass Fail _____

6L VDFN (7x5x0.9 mm) assembled by NSEB 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
<u>Precondition</u> <u>Prior Perform</u> <u>Reliability Tests</u> (At MSL Level 1)	<p>Electrical Test: +25°C and 125°C System: D10X_TCG</p> <p>Bake 150°C, 24 hrs System: CHINEE</p> <p>85°C/85%RH Moisture Soak 168 hrs. System: TABAI ESPEC Model PR-3SPH</p> <p>3x Convection-Reflow 265°C max System: Vitronics Soltec MR1243</p> <p>Electrical Test: +25°C and 125°C System: D10X_TCG</p>	<p>JESD22- A113</p> <p>JIP/ IPC/JEDEC J-STD-020E</p>	<p>693(0)</p>	<p>693</p> <p>693</p> <p>693</p> <p>693</p> <p>0/693</p>	<p>Pass</p>	<p>Good Devices</p>

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 Electrical Test: +125°C System: D10X_TCG Bond Strength: Wire Pull (>3.00 grams) Bond Shear (>13.00 grams) Bond Strength: Wire Pull (>3.50 grams) Bond Shear (>15.00 grams)	JESD22-A104		231		Parts had been pre-conditioned at 260°C 77 units / lot
			231(0)	0/231	Pass	
			15 (0)	0/15	Pass	
			15 (0)	0/15	Pass	
UNBIASED-HAST	Stress Condition: +130°C/85%RH, 96 hrs. System: HAST 6000X Electrical Test: +25°C System: D10X_TCG	JESD22-A118		231		Parts had been pre-conditioned at 260°C 77 units / lot
			231(0)	0/231	Pass	
HAST	Stress Condition: +130°C/85%RH, 96 hrs. Bias Volt: 3.3 Volts System: HAST 6000X Electrical Test: +25°C and 125°C System: D10X_TCG	JESD22-A110		231		Parts had been pre-conditioned at 260°C 77 units / lot
			231(0)	0/231	Pass	

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	JESD22-A103		45		45 units
	Electrical Test: +25°C and 125°C System: D10X_TCG		45(0)	0/45	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)	22 22 0/22	Pass	
Physical Dimensions	Physical Dimension, 10 units from 1 lot	JESD22-B100/B108	30(0) Units	0/30	Pass	
Bond Strength Data Assembly	Wire Pull (> 3.00 grams)	Mil. Std. 883-2011	30 (0) Wires	0/30	Pass	
	Bond Shear (> 13.00 grams)	CDF-AEC-Q100-001	30 (0) bonds	0/30	Pass	
	Wire Pull (> 3.00 grams)		30 (0) Wires	0/30	Pass	
	Bond Shear (> 15.00 grams)		30 (0) bonds	0/30	Pass	

CCB 4610
Pre and Post Change Summary
PCN#:KSRA-06MRSR308



A Leading Provider of Smart, Connected and Secure Embedded Control Solutions

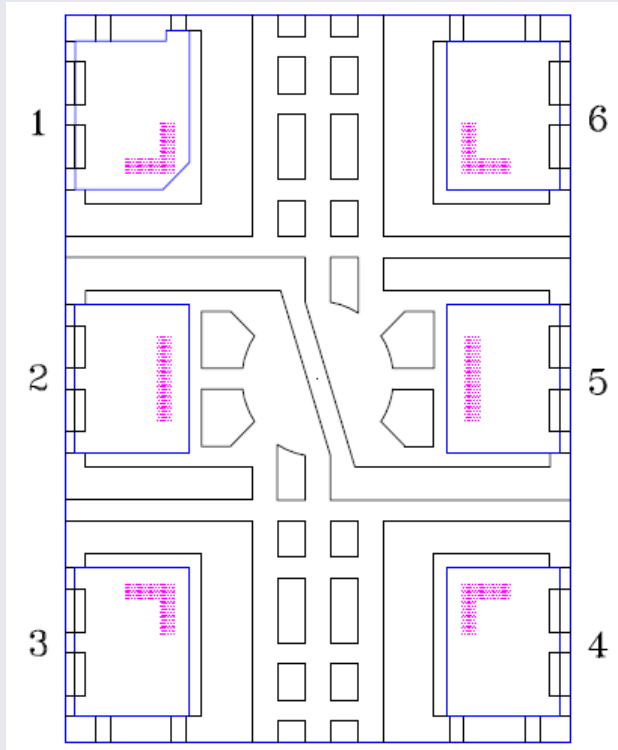


SMART | CONNECTED | SECURE

Lead frame comparison

Pre change

NSEB

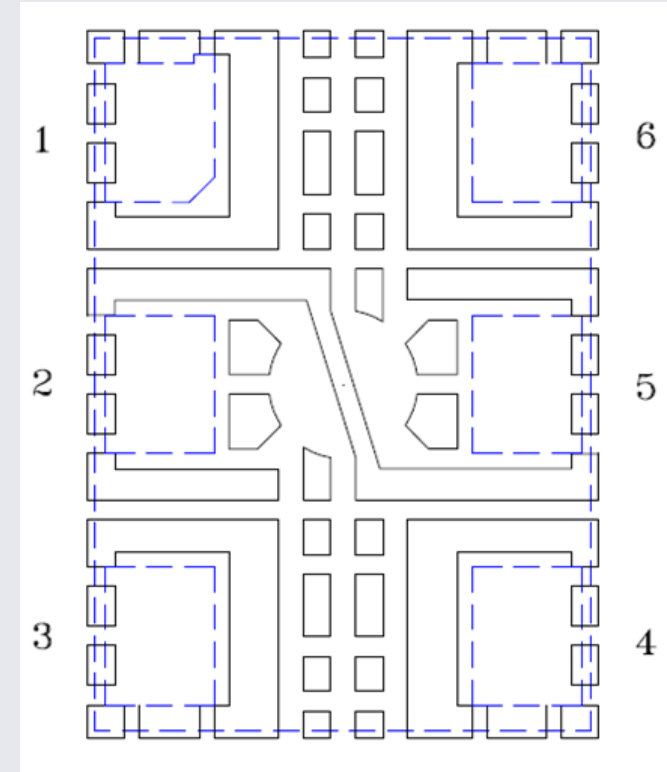


Lead frame DAP surface Prep

Selective PPF

Post Change

NSEB



Lead frame DAP surface Prep

Full PPF