Product Change Notification / KSRA-06MRSR308

Date:

15-Apr-2021

Product Category:

Clock and Timing - Oscillators

PCN Type:

Manufacturing Change

Notification Subject:

CCB 4610 Initial 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_04152021.pdf
KSRA-06MRSR308_Affected_CPN_04152021.csv

Notification Text:

PCN Status: Initial 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:

	Pre Change	**Post Change**
Assembly Site	UTAC Thai Limited (NSEB)	UTAC Thai Limited (NSEB)

Wire material	Au	Au
Die attach material	HR-5104 / 2200D	HR-5104 / 2200D
Molding compound material	G700LTD	G700LTD
Lead frame material	C194	C194
Lead Plating	NiPdAu	NiPdAu
Lead frame die attach paddle (DAP) surface prep material	Selective PPF	Full PPF
	See Pre and Post Change attachment for lead frame die attach paddle (DAP) surface prep material comparison	

Impacts to Data Sheet: None

Change Impact: None

Reason for Change: To improve manufacturability by qualifying a new lead frame with Full PPF die attach paddle (DAP) surface prep material.

Change Implementation Status: In Progress

Estimated Qualification Completion Date: October 2021

Note: Please be advised the qualification completion times may be extended because of unforeseen business conditions however implementation will not occur until after qualification has completed and a final PCN has been issued. The final PCN will include the qualification report and estimated first ship date. Also note that after the estimated first ship date guided in the final PCN customers may receive pre and post change parts.

Time Table Summary:

	April 2021					**-->**	**October 2021**				
Workweek	14	15	16	17	18		40	41	42	43	44
Initial PCN Issue Date				X							
Qual Report Availability											X
Final PCN Issue Date											X

Method to Identify Change: Traceability code

Qualification Plan: Please open the attachments included with this PCN labeled as PCN_#_Qual_Plan.

Revision History:April 15, 2021: Issued initial 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_KSRA-06MRSR308_Pre and Post Change Summary.pdf
PCN_KSRA-06MRSR308_Qual_Plan.pdf

Please contact your local Microchip sales office with questions or concerns regarding this notification.

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QUALIFICATION PLAN SUMMARY

PCN #: KSRA-06MRSR308

Date:
March 18, 2021

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.

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.

CCB No.: 4610

Misc.	Assembly site	UTL (NSEB)
	BD Number	BDM-002880A
	MP Code (MPC)	3610Q5HPA003
	Part Number (CPN)	D50N-M3
	MSL information	MSL-1@260C
	Assembly Shipping Media (T/R, Tube/Tray)	Tube
	Base Quantity Multiple (BQM)	50 units
	Reliability Site	MTAI
Lead-Frame	Paddle size	COL
	Material	C194
	DAP Surface Prep	Full PPF
	Treatment	Yes
	Process	Etched
	Lead-lock	Yes
	Part Number	FR1684
	Lead Plating	NiPdAu
	Strip Size	70x250 mm
	Strip Density	320 units
Bond Wire	Material	Au
Die Attach	Part Number	TALA1 = HR-5104 (DAF), 59401 = 2200D
	Conductive	HR-5104 = Non conductive, 2200D = Conductive
Die Coat	Part Number	JCR6109
MC	Part Number	G700LTD
PKG	PKG Type	VDFN
	Pin/Ball Count	6
	PKG width/size	7x5x0.9mm

Test Name	Conditions	Sample Size	Min. Qty of Spares per Lot (should be properly marked)	Qty of Lots	Total Units	Fail Accept Qty	Special Instructions
Standard Pb-free Solderability	J-STD-002D ; Perform 8 hours of steam aging for Matte tin finish and 1 hour steam aging for NiPdAu finish prior to testing. Standard Pb-free: Matte tin/ NiPdAu finish, SAC solder, wetting temp 245°C for both SMD & through hole packages.	22	5	1	27	>95% lead coverage	Standard Pb-free solderability is the requirement. SnPb solderability (backward solderability- SMD reflow soldering) is required for any plating related changes and highly recommended for other package BOM changes.
Wire Bond Pull - WBP	Mil. Std. 883-2011	5	0	1	5	0 fails after TC	30 bonds from a min. 5 devices.
Wire Bond Shear - WBS	CDF-AEC-Q100-001	5	0	1	5		30 bonds from a min. 5 devices.
Physical Dimensions	Measure per JESD22 B100 and B108	10	0	3	30		
External Visual	Mil. Std. 883-2009/2010	All devices prior to submission for qualification testing	0	3	ALL	0	
HTSL (High Temp Storage Life)	JESD22-A103 +125°C, +150°C or +175°C	45	5	1	50	0	Spares should be properly identified.
Preconditioning - Required for surface mount devices	J-STD-020JESD22-A113+150°C Bake for 24 hours, moisture loading requirements per MSL level + 3X reflow at peak reflow temperature per Jedec-STD-020E for package type MSL-1@260C	231+ 45 (for devices requiring PTC)	15+ 5 (for devices requiring PTC)	3	738+ 50 (for devices requiring PTC)	0	Spares should be properly identified.
HAST	JESD22-A101 or A110 +130°C/85% RH for 96 hrs or	77	5	3	246	0	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.
UHAST	JESD22-A102, A118, or A101 +130°C/85% RH for 96 hrs	77	5	3	246	0	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.
Temp Cycle	JESD22-A104 and Appendix 3 -65°C to +150°C	77	5	3	246	0	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.

CCB 4610

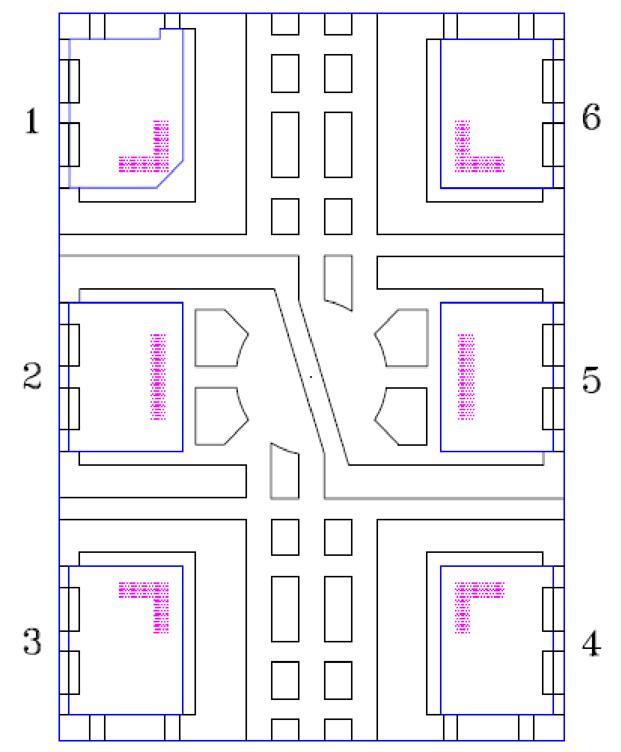
Pre and Post Change Summary

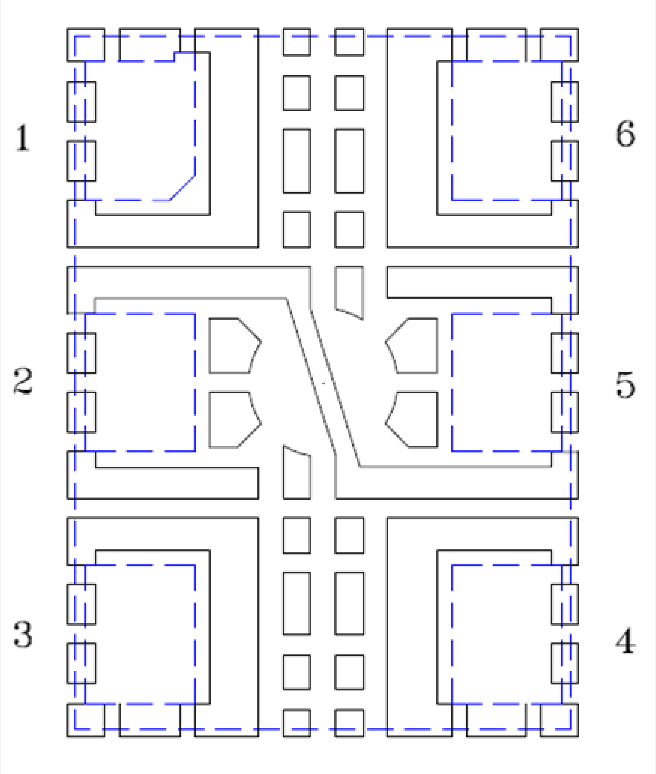
PCN#:KSRA-06MRSR308

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

SMART | CONNECTED | SECURE

Lead frame comparison

<table>
<tr><th>Pre change</th><th>Post Change</th></tr>
<tr><td>NSEB</td><td>NSEB</td></tr>
<tr><td>

<table><tr><td>Lead frame DAP surface Prep</td><td>Selective PPF</td></tr></table></td>
<td>

<table><tr><td>Lead frame DAP surface Prep</td><td>Full PPF</td></tr></table></td></tr>
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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
DSC1223NI1-106M2500
DSC1223NI1-148M5000
DSC1223NI2-200.0000
DSC1223NI1-125M0000
DSC1223NI1-156M0000
DSC1223NI1-156M2500
DSC1203NI3-148M3500
DSC1222NI1-50M00000
DSC1200NL3-PROG
DSC1202NE2-156M2600
DSC1204NL3-122M8800
DSC1204NL3-100M0000
DSC1221NE1-75M00000
DSC1204NL1-100M0000
DSC1201NE3-64M98000
DSC1202NE2-156M2617
DSC1201NE3-64M08000
DSC1211NE3-C0021
DSC1201NE3-24M57600
DSC1201NE3-20M97152
DSC1221NE3-48M00000
DSC1203NE1-125M0000
DSC1223NE1-125M0000
DSC1221NL1-125M0000
DSC1201NE1-2M500000
DSC1202NE3-75M00000
DSC1222NL3-10M00000
DSC1203NE3-15M00000
DSC1223NE3-15M00000
DSC1203NE3-120M0000

DSC1200NL3-PROGT

DSC1202NE2-156M2600T

DSC1204NL3-122M8800T

DSC1204NL3-100M0000T

DSC1221NE1-75M00000T

DSC1204NL1-100M0000T

DSC1201NE3-64M98000T

DSC1202NE2-156M2617T

DSC1201NE3-64M08000T

DSC1211NE3-C0021T

DSC1201NE3-24M57600T

DSC1201NE3-20M97152T

DSC1221NE3-48M00000T

DSC1203NE1-125M0000T

DSC1223NE1-125M0000T

DSC1221NL1-125M0000T

DSC1201NE1-2M500000T

DSC1202NE3-75M00000T

DSC1222NL3-10M00000T

DSC1203NE3-15M00000T

DSC1223NE3-15M00000T

DSC1203NE3-120M0000T

DSC1203NI2-148M5000T

DSC1201NI2-129M6000T

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DSC1222NI2-150M0000T

DSC1221NI2-125M0000T

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