Product Change Notification / CENO-16DNCZ633

Date:

19-Oct-2022

Product Category:

8-bit Microcontrollers

PCN Type:

Manufacturing Change

Notification Subject:

CCB 5332 Initial Notice: Qualification of palladium coated copper with gold flash (CuPdAu) bond wire material and 104x150 mils lead-frame paddle size for selected PIC16F153xx, PIC16F183xx, PIC16F184xx, PIC16LF15xx and PIC16LF18xx device families available in 14L SOIC (.150in) package.

Affected CPNs:

CENO-16DNCZ633_Affected_CPN_10192022.pdf
CENO-16DNCZ633_Affected_CPN_10192022.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 palladium coated copper with gold flash (CuPdAu) bond wire material and 104x150 mils lead-frame paddle size for selected PIC16F153xx, PIC16F183xx, PIC16F184xx, PIC16LF15xx and PIC16LF18xx device families available in 14L SOIC (.150in) package.

Pre and Post Change Summary:

	Pre Change	**Post Change**
Assembly Site	Microchip Technology Thailand (MTAI)	Microchip Technology Thailand (MTAI)
Wire Material	Au	CuPdAu
Die Attach Material	8390A	QMI519
Molding Compound Material	G600V	G600V
Lead-Frame Material	A194	A194
Lead-Frame Paddle Size	95 x 155 mils	104 x 150 mils
DAP Surface Prep	Ag	Bare Cu

Impacts to Data Sheet: None

Change Impact None

Reason for Change: To improve productivity by qualifying palladium coated copper with gold flash (CuPdAu) bond wire material and 104x150 mils lead-frame paddle size.

Change Implementation Status: In Progress

Estimated Qualification Completion Date: November 2022

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:

	October 2022					**November 2022**				
Workweek	40	41	42	43	44	45	46	47	48	49
Initial PCN Issue Date				x						
Qual Report										x

Availability										
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: October 19, 2022: 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_CENO-16DNCZ633_Pre and Post Change_Summary.pdf
PCN_CENO-16DNCZ633_Qualification Plan.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)

PIC16F18324-E/SL024
PIC16F18324-E/SL
PIC16LF18324-E/SL
PIC16F18324-E/SLVAO
PIC16F18324-I/SL
PIC16LF18324-I/SL
PIC16F18324-I/SLVAO
PIC16LF18324T-I/SL020
PIC16F18324T-I/SL027
PIC16F18324T-I/SL028
PIC16F18324T-I/SL
PIC16LF18324T-I/SL
PIC16F18324T-I/SLVAO
PIC16F18324T-E/SL024
PIC16F18324T-E/SL
PIC16F18324T-E/SLVAO
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PIC16LF18325-E/SL
PIC16F18325-E/SLVAO
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PIC16LF18325-I/SL
PIC16F18325T-I/SL
PIC16LF18325T-I/SL
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PIC16F18424T-E/SL

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PIC16LF18426-E/SL

PIC16F18426-I/SL

PIC16LF18426-I/SL

PIC16F18426T-I/SL

PIC16LF18426T-I/SL

PIC16F18326-E/SL

PIC16LF18326-E/SL

PIC16F18326-E/SLVAO

PIC16F18326-I/SL

PIC16LF18326-I/SL

PIC16F18326T-I/SL

PIC16LF18326T-I/SL

PIC16F18326T-E/SLVAO

PIC16F15325-E/SL

PIC16LF15325-E/SL

PIC16F15325-E/SLVAO

PIC16F15325-I/SL

PIC16LF15325-I/SL

PIC16F15325-I/SLVAO

PIC16F15325T-I/SL

PIC16LF15325T-I/SL

PIC16F15325T-E/SLVAO

PIC16F15324-E/SL

PIC16LF15324-E/SL

PIC16F15324-E/SLVAO

PIC16F15324-I/SLC02

PIC16F15324-I/SL

PIC16LF15324-I/SL

PIC16F15324-I/SLVAO

PIC16LF15324-I/SLVAO

PIC16F15324T-I/SLC02

PIC16F15324T-I/SL

PIC16LF15324T-I/SL

PIC16F15324T-E/SL

PIC16F15324T-E/SLVAO

PIC16F15323-E/SL

PIC16LF15323-E/SL

PIC16F15323-E/SLVAO

PIC16F15323-I/SL

PIC16LF15323-I/SL

PIC16F15323T-I/SL

PIC16LF15323T-I/SL

QUALIFICATION PLAN SUMMARY

PCN #: CENO-16DNCZ633

Date:
Oct 13, 2022

Qualification of palladium coated copper with gold flash (CuPdAu) bond wire material and 104x150 mils leadframe paddle size for selected PIC16F153xx, PIC16F183xx, PIC16F184xx, PIC16LF15xx and PIC16LF18xx device families available in 14L SOIC (.150in) package.

Purpose: Qualification of palladium coated copper with gold flash (CuPdAu) bond wire material and 104x150 mils leadframe paddle size for selected PIC16F153xx, PIC16F183xx, PIC16F184xx, PIC16LF15xx and PIC16LF18xx device families available in 14L SOIC (.150in) package.

CCB No.: 5332

		New Data (new Qual)
Misc.	Assembly site	MTAI
	BD Number	BD-001057-01
	MP Code (MPC)	MV0034D3XFX6
	Part Number (CPN)	PIC16F18426-E/SL
	MSL information	MSL1
	Assembly Shipping Media (T/R, Tube/Tray)	Bakeable Tray
	Base Quantity Multiple (BQM)	57
	Reliability Site	MTAI
Lead-Frame	Paddle size	104 x 150 mils
	Material	A194
	Manufacturer	ASM
	DAP Surface Prep	Bare Cu
	Treatment	Roughening
	Process	Stamped
	Lead-lock	No
	Part Number	10101413
	Lead Plating	Matte tin
	Strip Size	N/A
	Strip Density	N/A
Bond Wire	Material	CuPdAu
	Manufacturer	MKE
Die Attach	Part Number	QMI519
	Conductive	Yes
MC	Part Number	G600V
PKG	PKG Type	SOIC
	Pin/Ball Count	14
	PKG width/size	.150IN

Test Name	Conditions	Sample Size	Min. Qty of Spares per Lot (should be properly marked)	Qty of Lots	Total Units	Fail Accept Qty	Est. Dur. Days	Test Site	Special Instructions
Wire Bond Pull - WBP	Mil. Std. 883-2011	5	0	1	5	0 fails after TC	5	MTAI	30 bonds from a min. 5 devices.
Wire Bond Shear - WBS	CDF-AEC-Q100-001	5	0	1	5		5	MTAI	30 bonds from a min. 5 devices.
External Visual	Mil. Std. 883-2009/2010	All devices prior to submission for qualification testing	0	3	ALL	0	5	MTAI	
Preconditioning - Required for surface mount devices	+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; Electrical test pre and post stress at +25C MSL1/260	231	15	3	738	0	15	MTAI	Spares should be properly identified. 77 parts from each lot to be used for HAST, Autoclave, Temp Cycle test.
HAST	+130°C/85% RH for 96 hours. Electrical test pre and post stress at +25°C and +85	77	5	3	246	0	10	MTAI	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.
UHAST	+130°C/85% RH for 96 hrs. Electrical test pre and post stress at 25°C	77	5	3	246	0	10	MTAI	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.
Temp Cycle	-65°C to +150°C for 500 cycles. Electrical test pre and post stress at 85C; 3 gram force WBP, on 5 devices from 1 lot, test following Temp Cycle stress.	77	5	3	246	0	15	MTAI	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.

CCB 5332
Pre and Post Change Summary
PCN #: CENO-16DNCZ633

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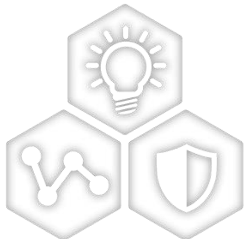
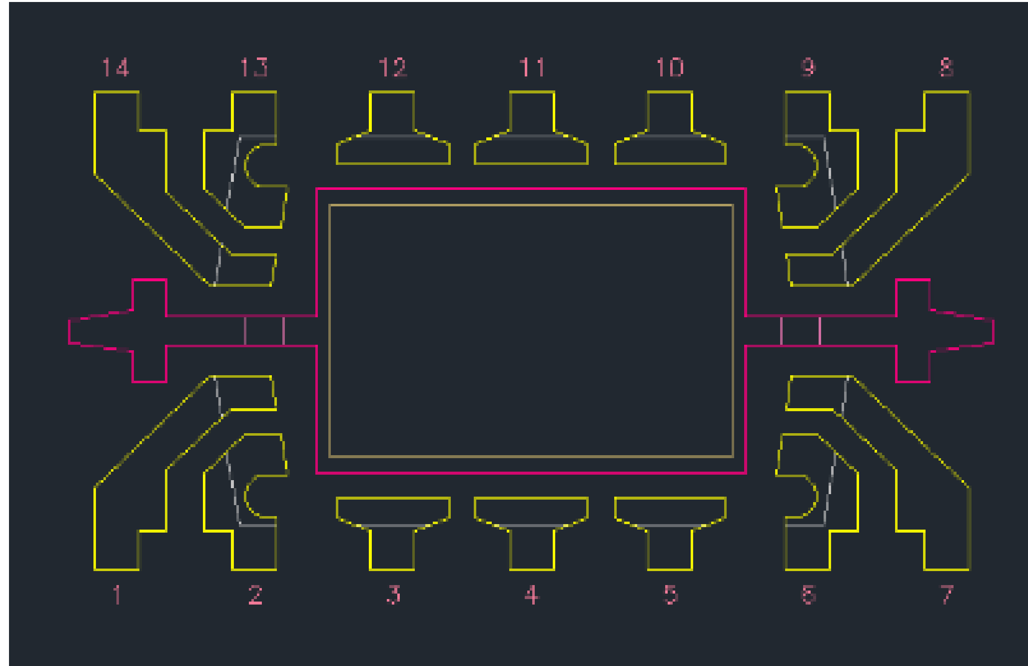


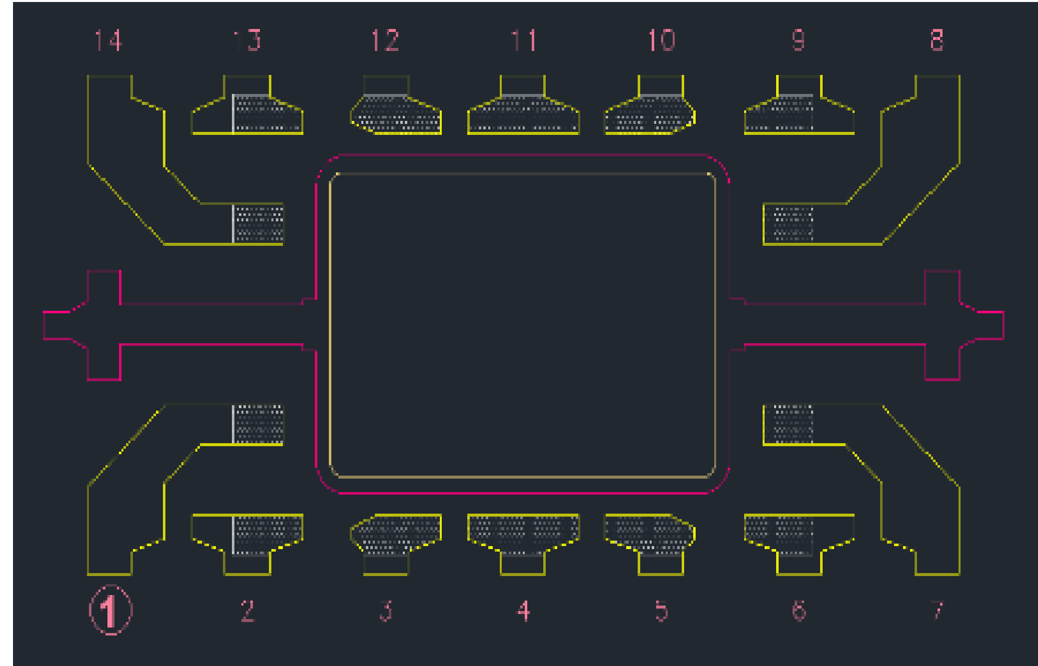
LEAD FRAME COMPARISON

Pre Change	Post Change



Note: Not to scale

Lead Frame Material	A194
Paddle size	95 x 155 mils
DAP Surface Prep	Ag
Wire Material	Au



Note: Not to scale

Lead Frame Material	A194
Paddle size	104 x 150 mils
DAP Surface Prep	Bare Cu
Wire Material	CuPdAu

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