

Product Change Notification / BLAS-03HUWS651

Date:

17-Jan-2024

Product Category:

Power MOSFET Drivers

PCN Type:

Manufacturing Change

Notification Subject:

CCB 6381 Final Notice: Qualification of NSEB as an additional assembly site for selected MIC4423xxx, MIC4424xxx, MIC4425xxx, MIC4467xxx, MIC4468xxx and MIC4469xxx device families available in 16L SOIC (.300in) package.

Affected CPNs:

BLAS-03HUWS651_Affected_CPN_01172024.pdf BLAS-03HUWS651_Affected_CPN_01172024.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 NSEB as an additional assembly site for selected MIC4423xxx, MIC4424xxx, MIC4425xxx, MIC4467xxx, MIC4468xxx and MIC4469xxx device families available in 16L SOIC (.300in) package.

Pre and Post Change Summary:

		Pre Change	Post Change				
Asseml	oly Site	Lingsen Precision Industires, Taiwan. (LPI)	Lingsen Precision Industires, Taiwan. (LPI)	UTAC Thai Limited (UTL-1) LTD./			
				(NSED)			
Wire N	1aterial	Au	Au	Au			
Die Attach Material		8340	8340	8200T			
Molding Compound Material		G600	G600	G605-L			
Lead-Frame Material		C194	C194	C194			
Lead-Frame Paddle size		184x146 mils	184x146 mils	165x270 mils			
Load Frame	Lead-lock	Yes	Yes	Yes			
Leau-Fiaille	Drawing	See pre and post change comparison					

Impacts to Data Sheet:None

Change Impact:None

Reason for Change:To improve on-time delivery performance by qualifying NSEB as an additional assembly site.

Change Implementation Status: In Progress

Estimated First Ship Date: February 19, 2024 (date code: 2408)

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

Time Table Summary:

	July 2023					January 2024			February 2024						
Workweek	2 7	2 8	2 9	3 0	3 1	>	0 1	0 2	0 3	0 4	0 5	06	07	08	09

Initial PCN Issue Date	х								
Qual Report Availability					х				
Final PCN Issue Date					х				
Estimated Implementation Date								х	

Method to Identify Change: Traceability code

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

Revision History: July 05, 2023: Issued initial notification.

January 17, 2024: Issued final notification. Attached the Qualification Report. Updated Pre and Post table summary to reflect lead-lock information. Provided estimated first ship date to be on February 19, 2024.

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

Attachments:

PCN_BLAS-03HUWS651_Pre and Post Change Summary.pdf PCN_BLAS-03HUWS651_Qual Report.pdf

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

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If you wish to <u>change your PCN profile, including opt out</u>, please go to the <u>PCN home page</u> select login and sign into your myMicrochip account. Select a profile option from the left navigation bar and make the applicable selections. BLAS-03HUWS651 - CCB 6381 Final Notice: Qualification of NSEB as an additional assembly site for selected MIC4423xxx, MIC4424xxx, MIC4425xxx, MIC4467xxx, MIC4468xxx and MIC4469xxx device families available in 16L SOIC (.300in) package.

Affected Catalog Part Numbers (CPN)

MIC4468ZWM MIC4468ZWM-TR MIC4467YWM MIC4467YWM-TR MIC4468YWM MIC4468YWM-TR MIC4423ZWM MIC4423YWM MIC4423ZWM-TR MIC4423YWM-TR MIC4467ZWM MIC4467ZWM-TR MIC4469YWM MIC4469YWM-TR MIC4469ZWM MIC4469ZWM-TR MIC4424ZWM MIC4424YWM MIC4424ZWM-TR MIC4424YWM-TR MIC4425ZWM MIC4425YWM MIC4425ZWM-TR MIC4425YWM-TR

CCB 6381 Pre and Post Change Summary PCN #: BLAS-03HUWS651

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Lead Frame Comparison







QUALIFICATION REPORT SUMMARY

RELIABILITY LABORATORY

PCN #: BLAS-03HUWS651

Date: June 18, 2020

Qualification of NSEB as an additional assembly site for selected MIC4423xxx, MIC4424xxx, MIC4425xxx, MIC4467xxx, MIC4468xxx and MIC4469xxx device families available in 16L SOIC (.300in) package. This is a qualification by similarity (QBS).



Purpose	Qualification of NSEB as an additional assembly site for selected MIC4423xxx, MIC4424xxx, MIC4425xxx, MIC4467xxx, MIC4468xxx and MIC4469xxx device families available in 16L SOIC (.300in) package. This is a qualification by similarity (QBS).
	E5355705
QUAL ID	Q20011 Rev. A
MP CODE	248207G5XB04
Part No.	MIC2178-3.3YWM
Bonding No.	BDM-002267 Rev. B
Package	
Туре	20L SOIC
Package size	300 mils
Lead Frame	
Paddle size	140 x 170 mils
Material	C194
Surface	Bare Cu /Rough in house
Process	Etched
Lead Lock	Yes
Part Number	FD0595
Treatment	Yes
<u>Material</u>	
Ероху	8200T
Wire	Au wire
Mold Compound	G605-L

Plating Composition Matte Tin



Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code			
NSEB203400775.000	GRSM420092527.110	19479W 2			
NSEB203400776.000	GRSM420092527.110	19479W 3			
NSEB203500034.000	GRSM420092527.110	19489W 4			

Result	X Pass	🔄 Fail	

20L SOIC (.300" mils) assembled by UTL pass reliability test per QCI-39000. This package was qualified the Moisture/Reflow Sensitivity Classification Level 2 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			
Precondition Prior Perform	Electrical Test : +25°C System: ASL1K	JESD22- A113	693(0)	693		Good Devices			
(At MSL Level 2)	Bake 150°C, 24 hrs System: CHINEE	JIP/ IPC/JEDE		693					
	85°C/60%RH Moisture Soak 192 hrs. System: TABAI ESPEC Model PR-3SPH	C J-STD- 020E		693					
	3x Convection-Reflow 265°C max			693					
	System: Vitronics Soltec MR1243								
	Electrical Test : +25°C System: ASL1K			0/693	Pass				

PACKAGE QUALIFICATION REPORT								
Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks		
	Stress Condition: -65°C to +150°C, 500 Cycles System : TABAI ESPEC TSA-70H	JESD22- A104		231		Parts had been pre-conditioned at 260°C		
Temp Cycle	Electrical Test : +25°C System: ASL1K		231(0)	0/231	Pass	77 units / lot		
	Bond Strength: Wire Pull (> 4.00 grams)		15 (0)	0/15	Pass			
	Bond Shear (>18.00 grams)		15 (0)	0/15	Pass			
	Stress Condition: +130°C/85%RH, 96 hrs. System: HAST 6000X	JESD22- A118		231		Parts had been pre-conditioned at 260°C		
UNBIASED-HAST	Electrical Test : +25°C System: ASL1K		231(0)	0/231	Pass	77 units / lot		
	Stress Condition: +130°C/85%RH, 96 hrs. Bias Volt: 16.5 V, 4.0 Volts System: HAST 6000X	JESD22- A110		231		Parts had been pre-conditioned at 260°C		
HAST	Electrical Test :+25°C System: ASL1K		231(0)	0/231	Pass	77 units / lot		

	PACKAGE QUALIFIC		IREF	PORT		
Test Number	Test Condition	Standard/	Qty.	Def/SS.	Result	Remarks
(Reference)		Method	(ACC.)			
High Temperature Storage Life	Stress Condition: Bake 175°C, 500 hrs System: SHEL LAB	JESD22- A103		45		45 units
	Electrical Test :+25°C System: ASL1K		45(0)	0/45	Pass	
Solderability	Steam Aging: Temp 93°C,8Hrs System: SAS-3000	J-STD-002	22 (0)	22		
Temp 245°C	Solder Dipping:Solder Temp.245°C			22		
	System: ERSA RA 2200D Visual Inspection: External Visual Inspection			0/22	Pass	
Physical	Physical Dimension,	JESD22-	30(0) Lipite	0/30	Pass	
Dimensions	10 units / lot from 3 lot	B100/B100	Units			
Wire sween	Wire sweep Inspection 15 Wires / lot	-	45(0)	0/45	Pass	
			Wires			
		M2011	30 (0) Wires	0/30	Pass	
Bond Strength	1 viie Fuii (> 4.00 grains)		********			
Data Assembly		JESD22-	30 (0)	0/30	Pass	
	Bond Shear (>20.00 grams)	B116	bonds			