Product Change Notification / BLAS-30BRVK558

Date:

09-Nov-2023

Product Category:

AC/DC - Offline Linear Regulators, Depletion Mode MOSFETs, Fault Protection ICs, General Purpose LED Drivers, Linear Regulator ICs, Ultrasound T/R Switch ICs

PCN Type:

Manufacturing Change

Notification Subject:

CCB 6431 Final Notice: Qualification of GTBF as an additional assembly site for selected CL1N8-G, CL25N8-G, CL2N8-G, FP0100N8-G, HV9921N8-G, HV9922N8-G, HV9923N8-G, LND150N8-G, LR645N8-G, LR745N8-G, LR8N8-G and MD0100N8-G catalog part numbers (CPN) available in 3L SOT-89 package.

Affected CPNs:

BLAS-30BRVK558_Affected_CPN_11092023.pdf
BLAS-30BRVK558_Affected_CPN_11092023.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 GTBF as an additional assembly site for selected CL1N8-G, CL25N8-G, CL2N8-G, FP0100N8-G, HV9921N8-G, HV9922N8-G, HV9923N8-G, LND150N8-G, LR645N8-G, LR745N8-G, LR8N8-G and MD0100N8-G catalog part numbers (CPN) available in 3L SOT-89 package.

Pre and Post Change Summary:

	Pre Change	Post Change	
Assembly Site	Lingsen Precision Industries, LTD. (LPI)	Lingsen Precision Industries, LTD. (LPI)	Great Team Backend Foundry (Dong Guan) Ltd. (GTBF)
Wire Material	Au	Au	Au
Die Attach Material	8060T	8060T	CRM-1800
Molding Compound Material	G600	G600	CEL-9240HF10L8
Lead-Frame Material	KFC	KFC	KFC/LY89
Lead-Frame Paddle Size	79x63mils	79x63mils	71x79mils
	See attached Pre and Post Change comparison		

Impacts to Data Sheet: Yes. POD (Product Outline Drawing).

		LPI			GTBF		
		Min	Nom	Max	Min	Nom	Max
Leads	N	3			3		
Pitch	e	1.45	1.50	1.55	1.50 BSC		
Outside Lead Pitch	e1	2.90	3.00	3.10	3.00 BSC		
Overall Height	A	1.40	1.50	1.60	1.41	1.50	1.59
Overall Width	H	3.94	-	4.25	3.97	4.15	4.24
Mold Package Width at Base	E	2.40	2.50	2.60	2.41	2.50	2.59
Mold Package Width at Top	E1	-	-	-	-	-	-

Overall Length	D	4.40	4.50	4.60	4.41	4.50	4.59
Tab Length (Option A)	D1A	-	-	-	-	-	-
Tab Length (Option B)	D1B	1.40	1.60	1.75	1.65 BSC		
Tab Length (Option C)	D1C	-	-	-	-	-	-
Foot Length	L	0.80	-	1.20	0.81	0.95	1.16
Lead Thickness	c	0.30	0.40	0.50	0.35	0.38	0.44
Lead 2 Width	b	0.41	0.47	0.53	0.43	0.48	0.54
Leads 1 & 3 Width	b1	0.36	0.42	0.48	0.43	0.48	0.54

Change Impact: None

Reason for Change: To improve productivity by qualifying GTBF as an additional assembly site.

Change Implementation Status: In Progress

Estimated First Ship Date: December 01, 2023 (date code: 2348)

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

Time Table Summary:

	July 2023					**>**	**November 2023**				**December 2023**					
Workweek	27	28	29	30	31		44	45	46	47	48	49	50	51	52	53
Initial PCN Issue Date					x											
Qual Report Availability								x								
Final PCN Issue Date								x								

Estimated Implementation 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 31, 2023: Issued initial notification.
November 09, 2023: Issued final notification. Attached the Qualification Report. Provided estimated first ship date to be on December 01, 2023.

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-30BRVK558 Qual Report.pdf
PCN_BLAS-30BRVK558 Pre and Post Change Summary.pdf

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

Terms and Conditions:

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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)

CL1N8-G
FP0100N8-G
CL25N8-G
CL2N8-G
MD0100N8-G
LR8N8-G
LR645N8-G
LR745N8-G
LND150N8-G
HV9921N8-G
HV9922N8-G
HV9923N8-G

CCB 6431

Pre and Post Change Summary

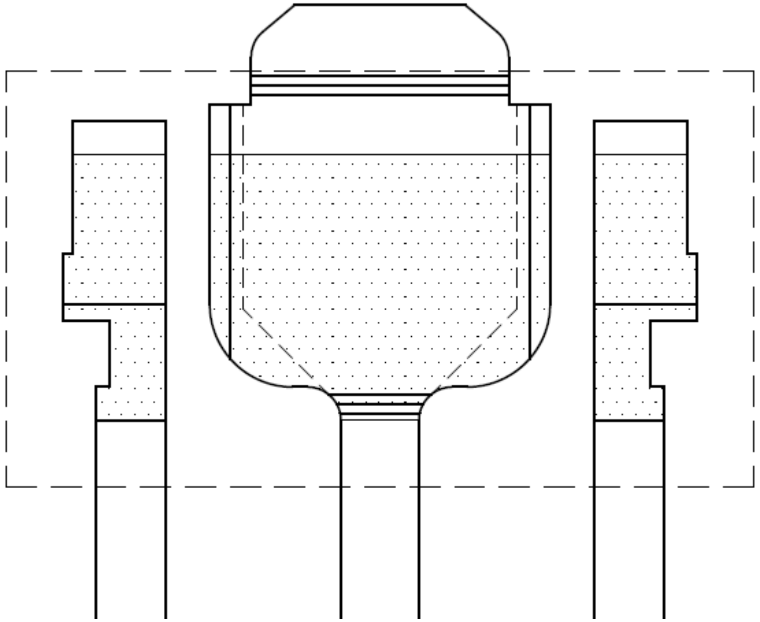
PCN# BLAS-30BRVK558

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

SMART | CONNECTED | SECURE

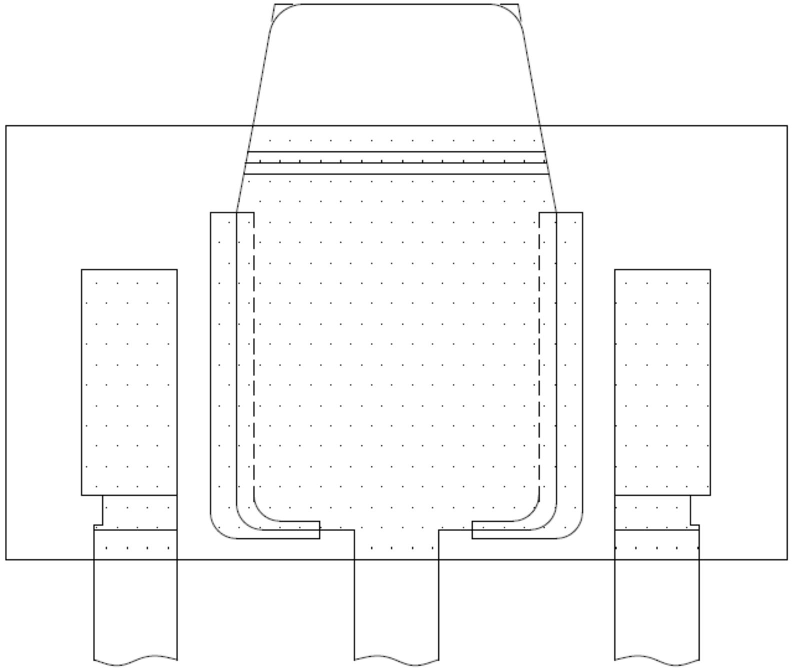
LEAD FRAME COMPARISON

LPI	GTBF



Note: Not to scale

Lead frame Material	KFC
Lead-Frame Paddle Size	79x63mils



Note: Not to scale

Lead frame Material	KFC/LY89
Lead-Frame Paddle Size	71x79mils

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QUALIFICATION REPORT SUMMARY
RELIABILITY LABORATORY

PCN #: BLAS-30BRVK558

Date:
October 31, 2023

Qualification of GTBF as an additional assembly site for selected CL1N8-G, CL25N8-G, CL2N8-G, FP0100N8-G, HV9921N8-G, HV9922N8-G, HV9923N8-G, LND150N8-G, LR645N8-G, LR745N8-G, LR8N8-G and MD0100N8-G catalog part numbers (CPN) available in 3L SOT-89 package.

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PACKAGE QUALIFICATION REPORT

Purpose	Qualification of GTBF as an additional assembly site for selected CL1N8-G, CL25N8-G, CL2N8-G, FP0100N8-G, HV9921N8-G, HV9922N8-G, HV9923N8-G, LND150N8-G, LR645N8-G, LR745N8-G, LR8N8-G and MD0100N8-G catalog part numbers (CPN) available in 3L SOT-89 package.
CN	E000190135
QUAL ID	R2301303 Rev. A
MP CODE	65043YA5XA00
Part No.	MD0100N8-G
Bonding No.	BD-001596 Rev. 01
CCB No.	6431
Package	
Type	3L SOT-89
Package size	71 x 79 mils
Lead Frame	
Paddle size	71 x 79 mils
Material	KFC / LY89
Surface	Spot Ag Plating
Process	Stamp
Lead Lock	No
Part Number	200000020251
Material	
Epoxy	CRM-1800
Wire	Au wire
Mold Compound	CEL-9240HF10L8
Plating Composition	Matte Sn

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PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
GTBF241900008.000	TMPE223495410.300	23327BV
GTBF241900009.000	TMPE223495410.300	23327C9
GTBF241900010.000	TMPE223495410.300	23327D4

Result ☒ Pass ☐ Fail ☐ ____________________

3L SOT-89 assembled by GTBF 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
Precondition Prior Perform Reliability Tests **(At MSL Level 1)**	**Electrical Test:** +25°C System: TMT_MVS_NT	JESD22-A113	693(0)	0/693		Good Devices
	Bake 150°C, 24 hrs. System: CHINEE	JIP/ IPC/JEDEC J-STD-020E		693		
	85°C/85%RH Moisture Soak 168 hrs. System: TABAI ESPEC Model PR-3SPH			693		
	3x Convection-Reflow 265°C max System: Vitronics Soltec MR1243			693		
	Electrical Test: +25°C System: TMT_MVS_NT		693(0)	0/693	Pass	

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	JESD22-A104		0/231		Parts had been pre-conditioned at 260°C
	Electrical Test: +25°C System: TMT_MVS_NT		231(0)	0/231	Pass	77 units / lot
	Bond Strength: Wire Pull (>4.00 grams)		15(0)	0/15	Pass	
UNBIASED-HAST	**Stress Condition:** +130°C/85%RH, 96 hrs. System: HAST 6000X	JESD22-A118		0/231		Parts had been pre-conditioned at 260°C
	Electrical Test: +25°C System: TMT_MVS_NT		231(0)	0/231	Pass	77 units / lot
HAST	**Stress Condition:** +130°C/85%RH, 96 hrs. **Bias Volt:** 30 Volts System: HAST 6000X	JESD22-A110		0/231		Parts had been pre-conditioned at 260°C
	Electrical Test: +25°C System: TMT_MVS_NT		231(0)	0/231	Pass	77 units / lot

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 **Electrical Test:** +25°C System: TMT_MVS_NT	JESD22-A103	45(0)	0/45 0/45	Pass	45 units
Solderability Temp 215°C	**Steam Aging:** Temp 93°C, 8Hrs System: SAS-3000 Solder Dipping: Solder Temp.215°C Solder material: SnPb Sn63, Pb37 System: ERSA RA 2200D Visual Inspection: External Visual Inspection	J-STD-002	22(0)	0/22 0/22 0/22	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)	0/22 0/22 0/22	Pass	
Bond Line Thickness	Bond Line Thickness	SPI-45528	15(0)	15(0)	Pass	5 units / lot
Wire sweep	Wire sweep Inspection 15 Wires / lot		45(0) Wires	0/45	Pass	
Physical Dimensions	Physical Dimension, 10 units / 1 lot	JESD22-B100/B108	30(0) Units	0/30	Pass	
Bond Strength Data Assembly	Wire Pull (>4.00 grams) Bond Shear (>20.00 grams)	Mil. Std. 883-2011 CDF-AEC-Q100-001	30(0) Wires 30(0) bonds	0/30 0/30	Pass Pass	