



Product Change Notification - RMES-31VQKE033

Date:

22 May 2019

Product Category:

Linear Regulator ICs; Depletion Mode MOSFETs

Affected CPNs:**Notification subject:**

CCB 3458 Initial Notice: Qualification of GTBF as a new assembly site for selected products available in 3L TO-220 package using 277 x 221 mils paddle size.

Notification text:**PCN Status:**

Initial notification

PCN Type:

Manufacturing Change

Microchip Parts Affected:

Please open one of the icons found in the Affected CPNs section above.

NOTE: For your convenience Microchip includes identical files in two formats (.pdf and .xls)

Description of Change:

Qualification of GTBF as a new assembly site for selected products available in 3L TO-220 package using 277 x 221 mils paddle size.

Pre Change:

Assembled at CARSEM using 2815A die attach, HCL-12S lead frame with 240 x 180 mils paddle size and CEL9240HF-10CM molding compound material

Post Change:

Assembled at GTBF using CRM-1800 die attach, LY80 lead frame with 277 x 221 mils paddle size and EME-G600 molding compound material

Pre and Post Change Summary:

	Pre Change	Post Change
Assembly Site	Carsem (M) SDN BHD (CARM)	Great Team Backend Foundry (Dong Guan) Ltd. (GTBF)
Wire material	Au wire	Au wire
Die attach material	2815A	CRM-1800
Molding compound material	CEL9240HF-10CM	EME-G600
Lead frame material	HCL-12S	LY80
Lead frame paddle size	240 x 180 mils	277 x 221 mils

Impacts to Data Sheet:

None

Change Impact:

None

Reason for Change:

To improve on-time delivery performance by qualifying GTBF as a new assembly site using 277 x 221 mils paddle size. CARM assembly site will no longer have manufacturing support for 3L TO-220 package.

**Change Implementation Status:**

In Progress

Estimated Qualification Completion Date:

June 2019

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:

	August 2018					>	June 2019				
Workweek	31	32	33	34	35		22	23	24	25	26
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:

August 09, 2018: Issued initial notification.

May 22, 2019: Re-issued initial notification. Added Lead frame paddle size information in notification subject, description of change and Pre and Post change summary table. Updated qualification plan to change the qual vehicle.

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

Attachment(s):

[PCN_RMES-31VQKE033_Qual_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)

CL6N5-G

DN2535N5-G

DN2540N5-G



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QUALIFICATION PLAN SUMMARY

PCN #: RMES-31VQKE033

**Date:
April 10, 2019**

**Qualification of GTBF as a new assembly site for selected products
available in 3L TO-220 package using 277 x 221 mils paddle size.**

Purpose: _____ Qualification of GTBF as a new assembly site for selected products available in 3L TO-220 package using 277 x 221 mils paddle size.

Package:

Type/Pin: _____ 3L TO-220

Die thickness: _____ 11 mils

Die size: _____ 43.4x43.4 mil

<u>Misc</u>	Assembly site	GTBF
	BD Number	BDM-002084 rev.A
	MP Code (MPC)	630039F8XB00
	Part Number (CPN)	DN2540N5-G
	CCB Number	3458
<u>Lead-Frame</u>	Paddle size	277 x 221 mils
	Material	LY80
	Surface	Spot Ag
	Treatment	None
	Process	Stamped
	Lead-lock	Yes
	Part Number	A1-TO220-3-3CFAGLC
	LF Thickness	50 mils Pad:1.27mm/Lead:0.381mm (Dual Gauge LF)
<u>Bond Wire</u>	Lead Plating	Matte Tin
	Material	Au
<u>Die Attach</u>	Wire Diameter	1.0 mil
	Part Number	CRM-1800
	Conductive	Yes
<u>MC</u>	Part Number	EME-G600

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
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	5	MTAI	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	3	15	0 fails after TC	5	MTAI	30 bonds from a minimum of 5 devices.
Wire Bond Shear - WBS	CDF-AEC-Q100-001	5	0	3	15	0	5	MTAI	30 bonds from a minimum of 5 devices.
Physical Dimensions	Measure per JESD22 B100 and B108	10	0	3	30	0	5	GTBF	
External Visual	Mil. Std. 883-2009/2010	All devices prior to submission for qualification testing	0	3	ALL	0	5	MTAI	
HAST	+130°C/85% RH for 96 hours 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.
Unbiased HAST	+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 +25°C; 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.