Product Change Notification / GBNG-29PCCJ889

Date:

02-Feb-2022

Product Category:

Driver / Interface ICs

PCN Type:

Manufacturing Change

Notification Subject:

CCB 4980 Initial Notice: Qualification of a tapeless lead frame for HV7224PG-G and HV7620PG-G catalog part numbers (CPN) available in 64L PQFP (20x14x3.4mm) package at CARS assembly site.

Affected CPNs:

GBNG-29PCCJ889_Affected_CPN_02022022.pdf
GBNG-29PCCJ889_Affected_CPN_02022022.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 tapeless lead frame for HV7224PG-G and HV7620PG-G catalog part numbers (CPN) available in 64L PQFP (20x14x3.4mm) package at CARS assembly site.

Pre and Post Change Summary:

		Pre Change	Post Change
Assembly Site		Carsem Semiconductor SDN BHD (CARS)	Carsem Semiconductor SDN BHD (CARS)
Wire Material		Au	Au
Die Attach Material		84-1LMISR4	84-1LMISR4
Molding Compound Material		EME-G600C	EME-G600C
Lead Frame	Material	C7025	C7025
	Type	Kapton taped	No tape
	Design	See attached Pre and Post Change comparison.	

Impacts to Data Sheet: None

Change Impact None

Reason for Change: To improve manufacturability by qualifying tapeless lead frame.

Change Implementation Status: In Progress

Estimated Qualification Completion Date: June 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:

	February 2022					>	June 2022				
Workweek	06	07	08	09	10		23	24	25	26	27
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: February 2, 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_GBNG-29PCCJ889_Qual_Plan.pdf
PCN_GBNG-29PCCJ889_Pre and Post Change_Summary.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.

CCB 4980
Pre and Post Change Summary
PCN #: GBNG-29PCCJ889

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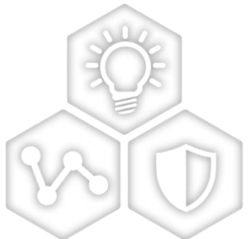
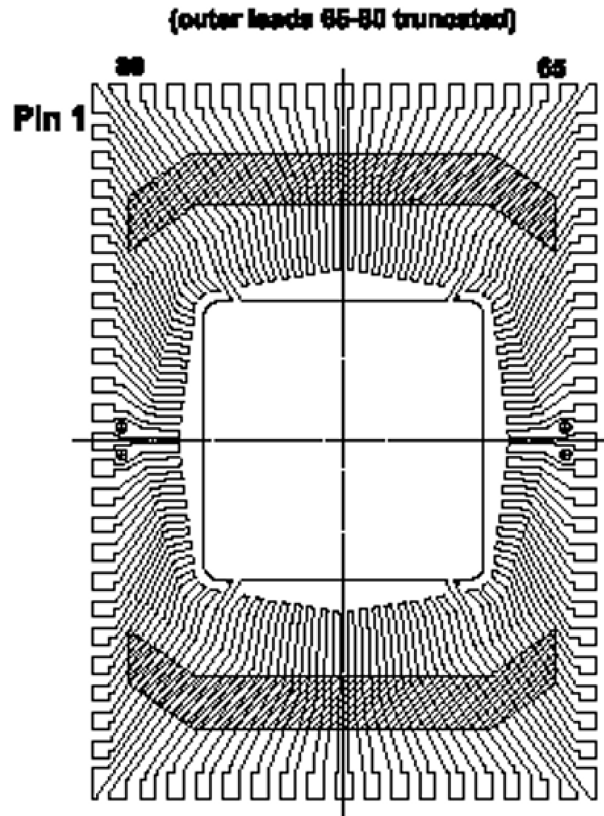


LEAD FRAME COMPARISON

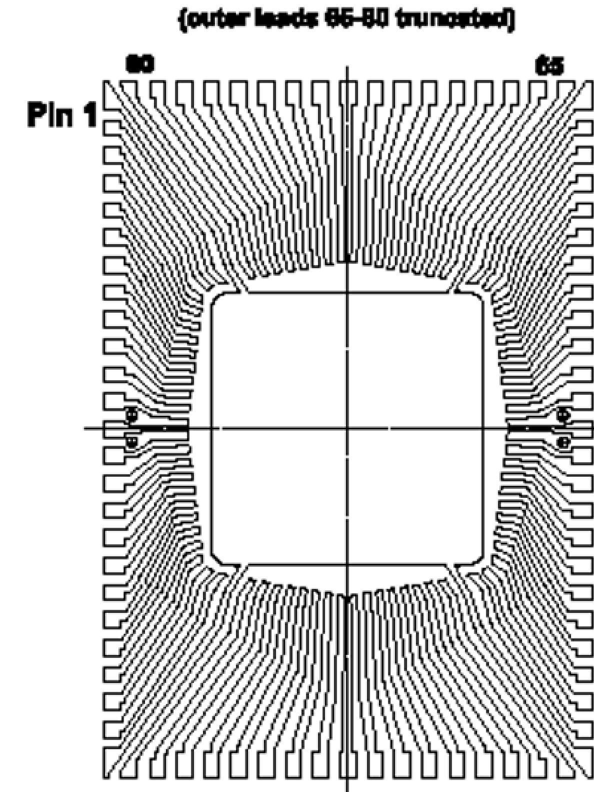
Pre Change	Post Change

Pre Change



Lead frame	Kapton taped lead frame

Post Change



Lead frame	No tape lead frame

QUALIFICATION PLAN SUMMARY

PCN #: GBNG-29PCCJ889

Date:
January 6, 2022

Qualification of a tapeless lead frame for HV7224PG-G and HV7620PG-G catalog part numbers (CPN) available in 64L PQFP (20x14x3.4mm) package at CARS assembly site.

Purpose: Qualification of a tapeless lead frame for HV7224PG-G and HV7620PG-G catalog part numbers (CPN) available in 64L PQFP (20x14x3.4mm) package at CARS assembly site.

Misc.	Assembly site	CARS
	BD Number	TBD
	MP Code (MPC)	6L0017U6XA00
	Part Number (CPN)	HV7224PG-G
	MSL information	MSL 3, 245C
	Assembly Shipping Media (T/R, Tube/Tray)	Tray
	Base Quantity Multiple (BQM)	66
	Reliability Site	MTAI
	CCB No	4980
Lead-Frame	Paddle size	315x315 mils
	Material	C7025
	DAP Surface Prep	Spot Ag
	Treatment	No
	Process	ETCH
	Lead-lock	available for 4 leads
	Part Number	443637
	Lead Plating	Matte Sn
	Strip Size	34.8x158.520 mm
	Strip Density	1x6 unit/strip
Bond Wire	Material	Au
Die Attach	Part Number	84-1LMISR4
	Conductive	Yes
MC	Part Number	EME-G600C
PKG	PKG Type	PQFO
	Pin/Ball Count	64
	PKG width/size	20x14x3.4mm

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	Special Instructions
Standard Pb-free Solderability	J-STD-002D ; Perform 8 hour 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	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	5	30 bonds from a min. 5 devices.
Wire Bond Shear - WBS	CDF-AEC-Q100-001	5	0	1	5		5	30 bonds from a min. 5 devices.
Wire Sweep								Required for any reduction in wire bond thickness.
Physical Dimensions	Measure per JESD22 B100 and B108	10	0	3	30		5	
Lead Integrity	JESD22 B105	5	0	1	5	0 (No lead breakage or cracks)	5	10 leads from each of 5 parts. Not required for SMD, only required for through-hole.

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	Special Instructions
External Visual	Mil. Std. 883-2009/2010	All devices prior to submission for qualification testing	0	3	ALL	0	5	
HTSL (High Temp Storage Life)	+175 C for 504 hours or 150°C for 1008 hrs. Electrical test pre and post stress at +25C	45	5	1 3 (Cu wire qual)	50 150 (Cu wire qual)	0	10	Must be in progress at time of package release to production, but completion is not required for release to production. 3 lots are required for Cu wire qual.
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 +25°C. MSL 3, 245C	231	15	3	738	0	15	Spares should be properly identified. 77 parts from each lot to be used for HAST, uHAST, Temp Cycle test.

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	Special Instructions
HAST	+130°C/85% RH for 96 hours or 110°C/85%RH for 264 hours. Electrical test pre and post stress at +25°C	77	5	3	246	0	10	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.
UHAST	+130°C/85% RH for 96 hrs or +110°C/85% RH for 264 hrs. Electrical test pre and post stress at +25°C	77	5	3	246	0	10	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 room temp; 3 gram force WBP, on 5 devices from 1 lot, test following Temp Cycle stress.	77	5	3	246	0	15	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.

Affected Catalog Part Numbers (CPN)

HV7224PG-G
HV7620PG-G