Product Change Notification / MFOL-20FNUC168

Date:

28-Mar-2022

Product Category:

Switching Regulators

PCN Type:

Manufacturing Change

Notification Subject:

CCB 5062 Initial Notice: Qualification of ABLESTIK ABP 6389 as a new die attach material for selected MIC4684YM and MIC4682YM device families available in 8L SOIC (3.9mm) package at UNIS assembly site.

Affected CPNs:

MFOL-20FNUC168_Affected_CPN_03282022.pdf
MFOL-20FNUC168_Affected_CPN_03282022.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 ABLESTIK ABP 6389 as a new die attach material for selected MIC4684YM and MIC4682YM device families available in 8L SOIC (3.9mm) package at UNIS assembly site.

Pre and Post Change Summary:

	Pre Change	Post Change
Assembly Site	Unisem (M) Berhad Perak, Malaysia (UNIS)	Unisem (M) Berhad Perak, Malaysia (UNIS)
Wire Material	Au	Au
Die Attach Material	ABLESTIK 84-1LMISR8	ABLESTIK ABP 6389
Molding Compound Material	G600	G600
Lead-Frame Material	A194FH	A194FH
Lead-Frame Paddle Size	95 X 160 MIL	95 X 160 MIL
DAP Surface Prep	Full spot	Full spot

Impacts to Data Sheet: None

Change Impact: None
Reason for Change: To improve manufacturability by qualifying ABLESTIK ABP 6389 as a new die attach material.

Change Implementation Status: In Progress

Estimated Qualification Completion Date: August 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:

	March 2022					>	August 2022				
Workweek	10	11	12	13	14		32	33	34	35	36
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:
March 28, 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_MFOL-20FNUC168_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.

MICROCHIP

QUALIFICATION PLAN SUMMARY

PCN #: MFOL-20FNUC168

Date:
March 17, 2022

Qualification of ABLESTIK ABP 6389 as a new die attach material for selected MIC4684YM and MIC4682YM device families available in 8L SOIC (3.9mm) package at UNIS assembly site.

PURPOSE: **Qualification of ABLESTIK ABP 6389 as a new die attach material for selected MIC4684YM and MIC4682YM device families available in 8L SOIC (3.9mm) package at UNIS assembly site.**

CCB# 5062

Misc.	Assembly site	Unisem
	BD Number	BD-000549/01
	MP Code (MPC)	21804YELAB02
	Part Number (CPN)	MIC4684YM-TR
	MSL information	MSL 2, 260C
	Assembly Shipping Media (T/R, Tube/Tray)	Tube
	Base Quantity Multiple (BQM)	400
	Reliability Site	SJO
Lead-Frame	Paddle size	95 X 160 MIL
	Material	A194FH
	DAP Surface Prep	Full spot
	Treatment	No
	Process	Etch
	Lead-lock	No
	Part Number	40940051
	Lead Plating	Matte Sn
	Strip Size	2.000x8.988 INCH
	Strip Density	140
Bond Wire	Material	AU
Die Attach	Part Number	ABLESTIK ABP 6389
	Conductive	Yes
MC	Part Number	G600
PKG	PKG Type	8SOICN-M(SN)
	Pin/Ball Count	8
	PKG width/size	150mils

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	ATE Test Site	REL Test Site	Pkg. Type	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	STARS	SJO	SOIC	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	STARS	SJO	SOIC	30 bonds from a min. 5 devices.
Wire Bond Shear - WBS	CDF-AEC-Q100-001	5	0	1	5	0	5	STARS	SJO	SOIC	30 bonds from a min. 5 devices.
Wire Sweep								STARS	SJO	SOIC	Required for any reduction in wire bond thickness.
Physical Dimensions	Measure per JESD22 B100 and B108	10	0	3	30	0	5	STARS	SJO	SOIC	

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	ATE Test Site	REL Test Site	Pkg. Type	Special Instructions
External Visual	Mil. Std. 883-2009/2010	All devices prior to submission for qualification testing	0	3	ALL	0	5	STARS	SJO	SOIC	
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 2, 260C * *T-SCAN is optional.*	231	15	3	738	0	15	STARS	SJO	SOIC	Spares should be properly identified. 77 parts from each lot to be used for HAST, uHAST, Temp Cycle test.
HAST	+130°C/85% RH for 96 hours Electrical test pre and post stress at +25°C and hot temp +85C.	77	5	3	246	0	10	STARS	SJO	SOIC	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.

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	ATE Test Site	REL Test Site	Pkg. Type	Special Instructions
UHAST	+130°C/85% RH for 96 hrs Electrical test pre and post stress at +25°C	77	5	3	246	0	10	STARS	SJO	SOIC	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 at +25°C and hot temp +85C 3-gram force WBP, on 5 devices from 1 lot, test following Temp Cycle stress.	77	5	3	246	0	15	STARS	SJO	SOIC	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.
HTOL	+100°C for 1000Hrs (JESD22-A108). Pre & Post ATE at +25°C and hot temp +85C	77	5	3	246	0	42	STARS	SJO	SOIC	Spares should be properly identified.

Affected Catalog Part Numbers (CPN)

MIC4684YM
MIC4684YM-TR
MIC4682YM
SPN030027Y
SPN030027Y-TR
MIC4682YM-TR