Product Change Notification / ASER-16KRVV582

Date:

24-Feb-2023

Product Category:

Switchtec

PCN Type:

Manufacturing Change

Notification Subject:

CCB 6167 Initial Notice: Qualification of E705G as an additional substrate material for selected PM400xx, PM410xx and PM420xx device families available in 753L BBGA (29x29x2.94mm) package assembled at ATK assembly site.

Affected CPNs:

ASER-16KRVV582_Affected_CPN_02242023.pdf
ASER-16KRVV582_Affected_CPN_02242023.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 E705G as an additional substrate material for selected PM400xx, PM410xx and PM420xx device families available in 753L BBGA (29x29x2.94mm) package assembled at ATK assembly site.

Pre and Post Change Summary:

	Pre Change	Post Change	
Assembly Site	Amkor Technology Korea (K4), INC (ATK)	Amkor Technology Korea (K4), INC (ATK)	Amkor Technology Korea (K4), INC (ATK)
Bump Material	Sn1.8Ag	Sn1.8Ag	Sn1.8Ag
Die Attach Material	SCF-5	SCF-5	SCF-5
Underfill Material	NAU-27-1F	NAU-27-1F	NAU-27-1F
Substrate Material	E700GR	E700GR	E705G

Impacts to Data Sheet: None

Change Impact None

Reason for Change: To improve productivity by qualifying E705G as an additional substrate material.

Change Implementation Status: In Progress

Estimated Qualification Completion Date: April 2023

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 2023					>	April 2023				
Workweek	5	6	7	8	9		14	15	16	17	18
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 24, 2023: 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 ASER-16KRVV582_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)

PM40028B1-F3EI
PM40036B1-F3EI
PM40052B1-F3EI
PM41028B1-F3EI
PM41036B1-F3EI
PM41052B1-F3EI
PM42028B1-F3EI
PM42036B1-F3EI
PM42052B1-F3EI

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QUALIFICATION PLAN SUMMARY

PCN #: ASER-16KRVV582

Date:
16 Feb 2023

Qualification of E705G as an additional substrate material for selected PM400xx, PM410xx and PM420xx device families available in 753L BBGA (29x29x2.94mm) package assembled at ATK assembly site.

Purpose: Qualification of E705G as an additional substrate material for selected PM400xx, PM410xx and PM420xx device families available in 753L BBGA (29x29x2.94mm) package assembled at ATK assembly site.

CCB: 6167

Misc.	Assembly site	ATK
	BD Number	ATK BD: 0855631AY
	MP Code (MPC)	STA169C5CB48
	Part Number (CPN)	PM40052B1-F3EI
	MSL information	MSL 4, 245C
	Assembly Shipping Media (T/R, Tube/Tray)	Peak NH BG2929 2.0 0409 6 (101404372)
	Base Quantity Multiple (BQM)	36
	Reliability Site	ATK
Substrate	Core Material	E705G
	Core Thickness	800um
	L1/L2/L3/L4/…L12 Thickness (12L Subs)	L1-L5, L8-L12: 15 +/- 0.05um, L6-L7: 18 +/-0.07um
	SM Material	SR7300GR
	Substrate Thickness	1328um
	Process	ABF GL102
	SM Thickness	21um
	Part Number	SPM14200-U (ATK p/n: 103206983)
	Drill Size	150um
	Line/Space Specs (um)	12/12
Bump	Material	Sn1.8Ag
	Bump Diameter	105um
	Bump Site (if diff from Assy site)	ATT
DA Epoxy	Part Number	SCF-5
	Conductive	No
Underfill	Part Number	NAU-27-1F
Others	Capacitor	C1, C3, C5-101386008 C2-101406081 C4-101360271
	Capacitor Bonding Material	SCP-5
PKG	PKG Type	FC BGA (BBGA)
	Pin/Ball Count	753
	PKG width/size	29x29x2.94mm
	Ball Pitch/Size	1.0mm
	Solder Ball Diameter	0.60mm
	Solder Ball Material	SAC305
	Solder Ball Flux	SCF-3

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
FC Bonding Integrity	X-ray and CSAM	5	0	1	5		1	ATK	ATK	FBGA	data from Assembly Characterization Report
Shadow Moire	Unstress sampled	5	0	1	5		-	ATK	ATK	FBGA	data from Assembly Characterization Report
Solder Ball Shear	JESD22B117A	5	0	1	5	0	5	ATK	ATK	FBGA	data from Assembly Characterization Report
Coplanarity	JESD22B108A/POD	5	0	1	5			ATK	ATK	FBGA	data from Assembly Characterization Report
High Temperature Storage Life (HTSL)	JESD22A-103. 150°C for 1008 hours Readpoints at 0, 504, and 1008 hours. Electrical test pre and post stress at +75°C	25	0	3	75	0	45	ATK	ATK	FBGA	Spare should be properly identified. For hot temp testing, pre/post test 1 lot at 85°C and 125°C (if applicable).
Preconditioning - Required for surface mount devices	+150°C Bake for 24 hours, moisture loading requirements per MSL 4 250C + 3X reflow at peak reflow temperature per Jedec STD-020E for package type; Electrical test pre and post stress at +75°C. JESD22A113.	50	0	3	150	0	15	ATK	ATK	FBGA	Spares should be properly identified. 231 parts from each lot to be used for HAST, UHAST & Temp Cycle test.
Unbiased HAST	JESD22A110. +110°C/85% RH for 264 hours. Electrical test pre and post stress at +75°C.	25	0	3	75	0	10	ATK	ATK	FBGA	Spare should be properly identified. Use the parts which have gone through Pre-conditioning. For hot temp testing, pre/post test 1 lot at 85°C and 125°C (if applicable).
Temp Cycle	JESD22A104. -55°C to +125°C for 1000 cycles. Electrical test pre and post stress at hot temp +75°C Readpoints at 500 cycles and 1000 cycles.	25	0	3	75	0	30	ATK	ATK	FBGA	Spare should be properly identified. Use the parts which have gone through Pre-conditioning. For hot temp testing, pre/post test 1 lot at 85°C and 125°C (if applicable).