Product Change Notification - KSRA-11JPBE431

Date:

05 Jun 2018

Product Category:

Ethernet PHYs

Affected CPNs:

Notification subject:

CCB 2672.002 and CCB 2672.003 Initial Notice: Qualification of ASE as a new assembly site for selected products of the 110nm wafer technology at DBHU available in 24L VQFN(4X4X0.9mm) and 32L VQFN(5X5X0.9mm) packages using palladium coated copper wire with gold flash (CuPdAu) bond wire.

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 ASE as a new assembly site for selected products of the 110nm wafer technology at DBHU available in 24L VQFN(4X4X0.9mm) and 32L VQFN(5X5X0.9mm) packages using palladium coated copper wire with gold flash (CuPdAu) bond wire

Pre Change:

Assembled at TICP using silver (Ag) bond wire

Post Change:

Assembled at ASE using palladium coated copper wire with gold flash (CuPdAu) bond wire.

Pre and Post Change Summary:

	Pre Change	Post Change
Assembly Site	Taiwan IC Packing Corp (TICP)	ASE Inc (ASE)
Wire material	Ag	CuPdAu
Die attach material	EN4900	EN4900
Molding compound material	G631	G631
Lead frame material	C194	C194

Impacts to Data Sheet:

None

Change Impact:

None

Reason for Change:

To improve manufacturability by qualifying ASE as new assembly site

Change Implementation Status:

In Progress

Estimated Qualification Completion Date:

November 2018

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:

	June 2018						November 2018				
Workweek	22	23	24	25	26		44	45	46	47	48
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:

June 05, 2018: 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.

Attachment(s):

PCN_KSRA-11JPBE431_Qual_Plan.pdf

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

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QUALIFICATION PLAN SUMMARY

PCN#: KSRA-11JPBE431

Date:
May 29, 2018

Qualification of ASE as a new assembly site for selected products of the 110nm wafer technology at DBHU available in 32L VQFN(5X5X0.9mm) packages using palladium coated copper wire with gold flash (CuPdAu) bond wire. The selected products available in 24L VQFN(4X4X0.9mm) packages will qualify by similarity (QBS).

Purpose: Qualification of ASE as a new assembly site for selected products of the 110nm wafer technology at DBHU available in 32L VQFN(5X5X0.9mm) packages using palladium coated copper wire with gold flash (CuPdAu) bond wire. The selected products available in 24L VQFN(4X4X0.9mm) packages will qualify by similarity (QBS).

CCB No.: 2672.002 and 2672.003

Process/CUP: DongBu 110 nm

Misc.	**Assembly site**	ASE
	BD Number	BDM-001781e
	MP Code (MPC)	XKAA1SPFAB02
	Part Number (CPN)	KSZ8081MNXCA-TR
Lead-Frame	**Paddle size**	137.8x137.8mils 3.5x3.5mm
	Material	C194
	Surface	Non-roughed
	Treatment	Non-roughed
	Process	Etched
	Lead-lock	No
	Part Number	A22626-0
	Lead Plating	Ag Plating
Bond Wire	**Material**	CuPdAu
Die Attach	**Part Number**	EN4900F
	Conductive	Yes
MC	**Part Number**	G631H
PKG	**PKG Type**	VQFN
	Pin/Ball Count	32
	PKG width/size	5x5x0.9
	MSL	2
Die	**Die Thickness**	11 mils
	Die Size	58x37
	Fab Process (site)	110nm DongBu

Test Name	Conditions	Reliability Stress Read Point	Pre & Post Reliability Stress Test Temperature	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
		-40°C to +125°C datasheet operating range (E Temp)	-40°C to +125°C datasheet operating range (E Temp)								
Standard Pb-free Solderability	JESD22B-102E; 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	MTH AI	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	MTH AI	
Wire Bond Pull - WBP	CDF-AEC-Q100-001			5	0	1	5		5	MTH AI	
Wire Bond Shear - WBS	CDF-AEC-Q100-001			5	0	1	5		5	MTH AI	
External Visual	Mil. Std. 883-2009/2010			All devices prior to submission for qualification testing	0	3	ALL	0	5	MTH AI	
HTSL (High Temp Storage Life)	JESD22A-103. +175°C, 2x Stress Electrical test pre and post stress at +25°C and hot temp.	500hrs	+25°C, +85°C	45	5	3	150	0	10	MTH AI	Spares should be properly identified.
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-020D for package type. MSL2 @+260°C		+25°C 85ºC	231	15	3	738	0	15	MTH AI	Spares should be properly identified. 77 parts from each lot to be used for HAST, Autoclave, Temp Cycle test.

Test Name	Conditions	Reliability Stress Read Point	Pre & Post Reliability Stress Test Temperature	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
		-40°C to +125°C datasheet operating range (E Temp)	-40°C to +125°C datasheet operating range (E Temp)								
HAST	'+130°C/85% RH for 96hrs Electrical test pre and post stress at +25°C and hot temp.	96 hrs	+25°C, +85°C	77	5	3	246	0	10	MTH AI	Use the parts which have gone through Pre-conditioning.
UHAST	+130°C/85% RH for 96	130°C/85% RH for 96	+25°C	77	5	3	246	0	10	MTH AI	Spares should be properly identified.
Temp Cycle	PreCon before TC Grade 1: -65°C to +150°C for 500 cycles (1x stress)	1000 cycles (1x stress);	+85°C	77	5	3	246	0	15	MTH AI	Use the parts which have gone through Pre-conditioning.

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Affected Catalog Part Numbers (CPN)

KSZ8081MNXCA
KSZ8081MNXCA-TR
KSZ8081MNXIA-TR
KSZ8081RNACA
KSZ8081RNACA-TR
KSZ8081RNAIA-TR
KSZ8081RNBCA-TR
KSZ8081RNBIA-TR
KSZ8081RNDCA-TR
KSZ8081RNDIA-TR
KSZ8091MNXCA
KSZ8091MNXCA-TR
KSZ8091MNXIA-TR
KSZ8091RNACA-TR
KSZ8091RNAIA-TR
KSZ8091RNBCA
KSZ8091RNBCA-TR
KSZ8091RNBIA-TR
KSZ8091RNDCA-TR
KSZ8091RNDIA-TR
SPNY801139
SPNY801144
SPNY801144-TR
SPNY801149
SPNY801149-TR
SPNY801150
SPNY801150-TR
SPNZ801144
SPNZ801144-TR
SPNZ801149-TR
SPNZ801150-TR
SPNZ801174
SPNZ801174-TR