



MICROCHIP

QUALIFICATION PLAN SUMMARY

PCN #: ASER-27VHSG893

Date:

June 26, 2019

Qualification of ASE as a new assembly site in selected products available in 100L LFBGA (9x9x1.38 mm) package.

Purpose: Qualification of ASE as a new assembly site in selected products available in 100L LFBGA (9x9x1.38 mm) package.

<u>Misc.</u>	Assembly site	ASE
	BD Number	AAH@A271280002-0
	MP Code (MPC)	TARA17ABAA02
	Part Number (CPN)	KSZ8842-PMBL-AM
	MSL information	MSL3 / 260
	Assembly Shipping Media (T/R, Tube/Tray)	Tray (Sunrise BJ-206 rev A)
	Base Quantity Multiple (BQM)	260 - 10x26 tray (Tray MPC) 1000 (TR MPC)
	Reliability Site	MCHP SJ REL
	CCB#	3867
<u>Substrate</u>	Core Material	HL832NX
	Core Thickness	200um
	L1/L2 Thickness	18um
	SM Material	AUS308
	Process	Normal
	SM Thickness	30+/-10
	Part Number	1224052101 (ASE dwg A27128-0)
	Drill Size	150 (5.9mil)
	Line/Space Specs	50 (1.97mil)
<u>Bond Wire</u>	Material	Au
<u>Die Attach</u>	Part Number	2100A
	Conductive	Yes
<u>MC</u>	Part Number	KE-G1250NAS
<u>PKG</u>	PKG Type	LFBGA
	Pin/Ball Count	100
	PKG width/size	9x9x1.38mm
	Ball Pitch/Size	0.8mm / 0.45mm
	Solder Ball Material	SAC305
<u>Die</u>	Die Thickness	7 mils
	Die Size	120x190mils
	Fab Process (site)	TSMC 0.15um

Test Name	Conditions	Reliability Stress Read Point Grade 3: -40°C to +85°C (MCHP I Temp)	Pre & Post Reliability Stress Test Temperature Grade 3: -40°C to +85°C (MCHP I Temp)	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
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	0	5	30 bonds from a min. 5 devices.
Physical Dimensions	Measure per JESD22 B100 and B108			10	0	3	30	0	5	
Solder Ball Shear (For BGA device only)	AEC Q100-010 AEC Q003			10	0	3	30		5	5 balls from a min. of 10 devices. Not required for SMD, only required for BGA devices.
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)	JESD22-A103 +125, +150°C or +175°C	Grade 3: 1000 hrs (+125°C) or 500 hrs (150°C)	Grade 3: +25°C, +85°C	45	5	1	50	0	21 - 83	Spares should be properly identified.
Preconditioning - Required for surface mount devices	J-STD-020JESD22-A113+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. MSL3 / 260°C		Grade 3: +25°C	231	15	3	738	0	15	Spares should be properly identified. 77 parts from each lot to be used for HAST, Autoclave, Temp Cycle test.
UHASt	JESD22-A102, A118, or A101 +130°C/85% RH for 96 hrs or +110°C/85% RH for 264 hrs	Grade 3: 96 hrs (+130°C/85% RH) or 264 hrs (+110°C/85% RH)	Grade 3: +25°C	77	5	3	246	0	10	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.
Temp Cycle	JESD22-A104 and Appendix 3 -55°C to +125°C, -55°C to +150°C or -65°C to +150°C	Grade 3: 500 cycles (-55°C to +125°C)	Grade 3: +85°C	77	5	3	246	0	15 - 60	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.