QUALIFICATION PLAN SUMMARY

PCN #: MFOL-04YFXQ522

Date:
April 28, 2026

Qualification of MMT as an additional assembly site for selected dsPIC33EP256GP504, dsPIC33EP256MC204, dsPIC33EP256MC504, PIC24EP256GP204, PIC24EP256MC204, dsPIC33EP128GP504, dsPIC33EP128MC204, dsPIC33EP128MC504, PIC24EP128GP204, PIC24EP128MC204, dsPIC33EP64GP504, dsPIC33EP64MC204, dsPIC33EP64MC504, PIC24EP64GP204, PIC24EP64MC204, dsPIC33EP32GP504, dsPIC33EP32MC204, dsPIC33EP32MC504, PIC24EP32GP204, PIC24EP32MC204, MGC3140, dsPIC33EP512GP504, dsPIC33EP512MC204, dsPIC33EP512MC504, PIC24EP512GP204, PIC24EP512MC204, dsPIC33EP16GS202, and dsPIC33EP32GS202 device families available in 28L and 48L UQFN (6x6x0.5mm) packages. This is a Q006 Grade 0 qualification.

Package Qualification Plan

Purpose: Qualification of MMT as an additional assembly site for selected dsPIC33EP256GP504, dsPIC33EP256MC204, dsPIC33EP256MC504, PIC24EP256GP204, PIC24EP256MC204, dsPIC33EP128GP504, dsPIC33EP128MC204, dsPIC33EP128MC504, PIC24EP128GP204, PIC24EP128MC204, dsPIC33EP64GP504, dsPIC33EP64MC204, dsPIC33EP64MC504, PIC24EP64GP204, PIC24EP64MC204, dsPIC33EP32GP504, dsPIC33EP32MC204, dsPIC33EP32MC504, PIC24EP32GP204, PIC24EP32MC204, MGC3140, dsPIC33EP512GP504, dsPIC33EP512MC204, dsPIC33EP512MC504, PIC24EP512GP204, PIC24EP512MC204, dsPIC33EP16GS202, and dsPIC33EP32GS202 device families available in 28L and 48L UQFN (6x6x0.5mm) packages. This is a Q006 Grade 0 qualification.

CCB No.: 8224

Misc.	Assembly site	MMT
	BD Number	Various
	MP Code (MPC)	TLAB1MR7XMFA
	Part Number (CPN)	DSPIC33EP512MC204-H/MV
	MSL information	MSL-1@260C
	Assembly Shipping Media (T/R, Tube/Tray)	Tube
	Base Quantity Multiple (BQM)	61
	Reliability Site	MTAI
Lead-Frame	Paddle size	193x193
	Material	EFTEC-64T
	DAP Surface Prep	Bare Cu
	Treatment	Roughening LF
	Process	Etched
	Lead-lock	Half Etched
	Part Number	10104830
	Lead Plating	Matte Tin
	Strip Size	250x70mm
	Strip Density	700 unit/strip
Bond Wire	Material	CuPdAu
Die Attach	Part Number	QMI519 (PFAS Free)
	Conductive	Yes
MC	Part Number	G700LTD
PKG	Package Type	UQFN
	Pin/Ball Count	48
	PKG width/size	6x6x0.5mm

Test Name	Conditions	Reliability Stress Read Point Grade 0: -40°C to +150°C (MCHP H Temp)	Reliability Stress Read Point Grade 0: -40°C to +150°C (MCHP H 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 Instruction
Standard Pb-free Solderability	J-STD-002D ; 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	Standard Pb-free solderability is the requirement.
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 Stich Pull - WBSP				5	0	1	5		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.

Test Name	Conditions	Reliability Stress Read Point Grade 0: -40°C to +150°C (MCHP H Temp)	Reliability Stress Read Point Grade 0: -40°C to +150°C (MCHP H 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 Instruction
Physical Dimension	Measure per JESD22 B100 and B108			10	0	3	30		5	
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°C, +150°C or +175°C	Grade 0: 1000 hrs (+175°C)	Grade 0: +25°C, +85°C, +125°C, +150°C	45	5	3	150	0	21 - 167	Perform per the requirements in AEC-Q100/Q101. Spares should be properly identified.
Preconditioning - Required for surface mount devices	'J-STD-020 JESD22-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. MSL-1 @260 °C		Grade 0: +25°C, +85°C, +125°C, +150°C	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	Reliability Stress Read Point Grade 0: -40°C to +150°C (MCHP H Temp)	Reliability Stress Read Point Grade 0: -40°C to +150°C (MCHP H 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 Instruction
HAST	'JESD22-A101 or A110 +130°C/85% RH for 96 hrs or +110°C/85%RH for 264 hrs	Grade 0: 96 hrs (+130°C/85% RH)	Grade 0: +25°C, +85°C, +125°C, +150°C	77	5	3	246	0	10 - 22	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.
UHAST	'JESD22-A102, A118, or A101 +130°C/85% RH for 96 hrs or +110°C/85% RH for 264 hrs	Grade 0: 96 hrs (+130°C/85% RH)	Grade 0: +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 -55ºC to +125ºC, -55ºC to +150ºC	Grade 0: 1500 cycles (-55ºC to +150ºC)	Grade 0: +25°C,+85°C, +125°C, +150°C	77	5	3	246	0	15 - 120	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.
AM (AEC-Q006 Requirements)	IPC/JEDEC J-STD-035									