QUALIFICATION PLAN

PCN #: JAON-21DZUH494

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Qualification of palladium coated copper with gold flash (CuPdAu) bond wire and G700LS molding compound in selected products of the 150K and 160K wafer technologies available in 28L SSOP package at ANAP assembly site.

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Purpose:_____Qualification of palladium coated copper with gold flash (CuPdAu) bond wire and G700LS molding compound in selected products of the 150K and 160K wafer technologies available in 28L SSOP package at ANAP assembly site.
MP code: _____DE021TN2X024
Part No.:_____PIC16F57T-I/SS024
BD No:_____BDM-000835B
CCB No.:_____1708

Package:

Type _____ 28L SSOP

Width or Size _____ 0.209”

Die thickness: _____ 15

Die size: _____ 60.5x53.9

MSL: _____ 1

Lead frame:

Paddle size: _____ 154x200

Material_____ C194

Surface _____ Ring Ag

Treatment _____ Rough

Process_____ etched

Leadlock_____ yes

Part Number_____ 101383340

Strip _____ OMLF

Wire:

Material_____ CuPdAu

Die Attach Epoxy:

Part Number_____ 8290

Conductive_____ Yes

Mold Compound:

Part Number_____ G700LS

Lead finish:_____matte tin

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	Special Instructions
Standard Pb-free Solderability	JESD22B-102E; 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	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	3	24	0 fails after TC	5	30 bonds from a minimum of 5 devices.
Wire Bond Shear - WBS	CDF-AEC-Q100-001	5	0	3	24	0	5	30 bonds from a minimum of 5 devices.
Wire Sweep		5	0	3	15	0		Required for any reduction in wire bond thickness.
Physical Dimensions	Measure per JESD22 B100 and B108	10	0	3	30	0	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)	+175 C for 504 hours or 150°C for 1008 hrs. Electrical test pre and post stress at +25°C and hot temp.85oC, (1 lot to be tested at 125°C)	45	5	1	50	0	10	Must be in progress at time of package release to production, but completion is not required for release to production.
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; Electrical test pre and post stress at +25°C. MSL1 @ 260°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.
HAST	+130°C/85% RH for 96/192 hours. Electrical test pre and post stress at +25°C and hot temp. (1 lot to be tested at 125°C)	77	5	3	246	0	10	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	Special Instructions
Unbiased HAST	+130°C/85% RH for 96/192 hrs. Electrical test pre and post stress at +25°C	77	5	3	246	0	10	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.
Temp Cycle	-65°C to +150°C for 500/1000 cycles. Electrical test pre and post stress at hot temp; 3 gram force WBP, on 5 devices from 1 lot, test following Temp Cycle stress. (1 lot to be tested at 125°C)	77	5	3	246	0	15	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.