



MICROCHIP

QUALIFICATION PLAN

PCN #: JAON-15BYTH145

**Date:
March 9, 2016**

**Qualification of palladium coated copper with gold flash
(CuPdAu) bond wire in selected products of the 90K and
120K wafer technologies available in 8L SOIJ package at
MTAI assembly site.**

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Purpose: _____ Qualification of palladium coated copper with gold flash (CuPdAu) bond wire in selected products of the 90K and 120K wafer technologies available in 8L SOIJ package at MTAI assembly site.

CCB No.: _____ 2597

Misc.	Assembly site	MTAI
	BD Number	BDM-001037 rev.A
	MP Code (MPC)	A7AF81C3XB04
	Part Number (CPN)	PIC12C508A-04/SM
Lead-Frame	Paddle size	140x160 mils
	Material	CDA194
	Manufacturer	ASM
	Surface	Bare Cu DAP
	Treatment	Brown Oxide Treated
	Process	Stamped
	Lead-lock	No
	Lead Plating	Matte Tin
Bond Wire	Material	CuPdAu
Die Attach	Part Number	8390A
	Conductive	Yes
MC	Part Number	G600V
PKG	PKG Type	SOIJ
	Pin/Ball Count	8
	PKG width/size	0.208 inch
Die	Die Thickness	15 mils
	Die Size	41.5 x 48.0 mils

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.
Backward Solderability	JESD22B-102E; Perform 8 hours steam aging for Matte tin finish and 1 hour steam aging for NiPdAu finish prior to testing. Backward: Matte tin/ NiPdAu finish, SnPb solder, wetting temp 215°C for SMD.	22	5	1	27	> 95% lead coverage	5	
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.
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 85°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 hours. Electrical test pre and post stress at +25°C and hot temp 85°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 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 cycles. Electrical test pre and post stress at hot temp 85 °C; 3 gram force WBP, on 5 devices from 1 lot, test following Temp Cycle stress.	77	5	3	246	0	15	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.

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Affected Catalog Part Numbers (CPN)

PCN_JAON-15BYTH145
CATALOG_PART_NBR
HCS365/SM
HCS365-I/SM
HCS365T/SM
HCS365T-I/SM
HCS500/SM
HCS500-I/SM
HCS500T/SM
PIC12C508-04/SM
PIC12C508-04E/SM
PIC12C508-04I/SM
PIC12C508A-04/SM
PIC12C508A-04/SM048
PIC12C508A-04E/SM
PIC12C508A-04I/SM
PIC12C508AT-04/SM
PIC12C508AT-04/SM048
PIC12C508AT-04/SM096
PIC12C508AT-04/SM232
PIC12C508AT-04/SM233
PIC12C508AT-04E/SM
PIC12C508AT-04I/SM
PIC12C508AT-04I/SM112
PIC12C508AT-04I/SM142
PIC12C508AT-04I/SM194
PIC12C508AT-04I/SM218
PIC12C508AT-04I/SM224
PIC12C508AT-04I/SM226
PIC12C508AT-04I/SM236
PIC12C508T-04/SM
PIC12C508T-04/SM038
PIC12C508T-04I/SM
PIC12C509-04/SM
PIC12C509-04E/SM
PIC12C509-04I/SM
PIC12C509A-04/SM
PIC12C509A-04E/SM
PIC12C509A-04I/SM
PIC12C509AT-04/SM
PIC12C509AT-04/SM022
PIC12C509AT-04/SM091
PIC12C509AT-04E/SM
PIC12C509AT-04I/SM
PIC12C509AT-04I/SM135

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PCN_JAON-15BYTH145
CATALOG_PART_NBR
PIC12C509T-04/SM
PIC12C509T-04E/SM
PIC12C509T-04I/SM
PIC12C671-04/SM
PIC12C671-04/SMC01
PIC12C671-04E/SM
PIC12C671-04I/SM
PIC12C671-04I/SM050
PIC12C671-10/SM
PIC12C671-10I/SM
PIC12C671T-04/SM
PIC12C671T-04/SM067
PIC12C671T-04/SMC01
PIC12C671T-04E/SM
PIC12C671T-04I/SM
PIC12C671T-04I/SM040
PIC12C671T-04I/SM066
PIC12C671T-10I/SM
PIC12C671T-10I/SM070
PIC12C672-04/SM
PIC12C672-04E/SM
PIC12C672-04I/SM
PIC12C672-10/SM
PIC12C672-10E/SM
PIC12C672-10I/SM
PIC12C672T-04/SM
PIC12C672T-04I/SM
PIC12C672T-04I/SM028
PIC12CR509AT-04I/SM021
PIC12LC508A-04/SM
PIC12LC508A-04I/SM
PIC12LC508AT-04/SM
PIC12LC508AT-04I/SM172
PIC12LC509A-04/SM
PIC12LC509A-04I/SM
PIC12LC509AT-04I/SM
PIC12LC671-04/SM
PIC12LC671-04I/SM
PIC12LC672-04/SM
PIC12LC672-04I/SM