



MICROCHIP

QUALIFICATION REPORT
RELIABILITY LABORATORY

PCN #: JAON-01PHJW963

Date
May 16, 2016

**Qualification of MTAI assembly site for selected
products available in 64L QFN (9x9x0.9mm) package
with 311x311 and 291x291 leadframe paddle size.**

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MICROCHIP

PACKAGE QUALIFICATION REPORT

Purpose	Qualification of MTAI assembly site for selected products available in 64L QFN (9x9x0.9mm) package with 311x311 and 291x291 leadframe paddle size.
CN	BC160332
QUAL ID	Q16080
MP CODE	WAAA17R4XEEL
Part No.	PIC32MZ2048ECH064-I/MR
Bonding No.	BDM-000748 Rev. A
CCB No.	2628
<u>Package</u>	
Type	64L QFN
Package size	9x9x0.9 mm
Die thickness	11 mils
Die size	228.9 x 217.7 mils
<u>Lead Frame</u>	
Paddle size	311 x 311 mils
Material	A194
Surface	Bare copper on paddle
Process	Etched
Lead Lock	Yes
Part Number	10106408
Treatment	Roughened
<u>Die attach material</u>	
Epoxy	3280
Wire	Au wire
Mold Compound	G700LTD
Plating Composition	Matte Tin



MICROCHIP PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
MTAI165003251.000	TC14916239579.431	1610VVP
MTAI165100445.000	TC14916239579.430	1610VVQ
MTAI165101243.000	TC14916239579.431	1611YG8

Result

☒ Pass ☐ Fail ☐ _____

64L QFN (9x9x0.9mm) assembled by MTAI pass reliability test per QCI-39000. This package was qualified the Moisture/Reflow Sensitivity Classification Level 1 at 260°C reflow temperature per IPC/JEDEC J-STD-020D standard.

Prepared By: Thinnapol Date: May 16, 2016 (Sr. Reliability Engineer)

(Mr. Thinnapol Nakkasun)

Approved By: Som Date: May 16, 2016 (Reliability Manager)

(Mr. Somnuek Thongprasert)

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS	Result	Remarks
Moisture/Reflow Sensitivity Classification Test (At MSL Level 1)	85 °C/ 85%RH Moisture Soak 168 hrs. System: TABAI ESPEC Model PR-3SPH 3x Convection-Reflow 265°C max System: Vitronics Soltec MR1243 (IPC/JEDEC J-STD-020D)	IPC/JEDEC C J-STD- 020D	135	0/135	Pass	

<u>Precondition Prior Perform Reliability Tests (At MSL Level 1)</u>	Electrical Test :+25°C,85°C and -40 °C System: J750	JESD22- A113	693(0)	693		Good Devices
	Bake 150 °C, 24 hrs System: CHINEE			693		
	85 °C/85%RH Moisture Soak 168 hrs. System: TABAI ESPEC Model PR-3SPH			693		
	3x Convection-Reflow 265°C max System: Vitronics Soltec MR1243			693		
	Electrical Test :+25°C and 85°C System: J750			0/693	Pass	

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
Temp Cycle	Stress Condition: -65°C to +150°C, 500 Cycles System : TABAI ESPEC TSA-70H Electrical Test: + 85°C System: J750 Bond Strength: Wire Pull (> 2.5 grams) Bond Shear (>15.00 grams)	JESD22-A104	231(0)	231 0/231	Pass	Parts had been pre-conditioned at 260°C 77 units / lot
UNBIASED-HAST	Stress Condition: +130°C/85%RH, 96 hrs. System: HAST 6000X Electrical Test: +25°C System: J750	JESD22-A118	231(0)	231 0/231	Pass	Parts had been pre-conditioned at 260°C 77 units / lot
HAST	Stress Condition: +130°C/85%RH, 96 hrs. Bias Volt: 3.6 Volts System: HAST 6000X Electrical Test: +25°C and 85°C System: J750	JESD22-A110	231(0)	231 0/231	Pass	Parts had been pre-conditioned at 260°C 77 units / lot
High Temperature Storage Life	Stress Condition: Bake 175°C, 504 hrs System: SHEL LAB Electrical Test :+25°C and 85°C System :J750	JESD22-A103	45(0)	45 0/45	Pass	45 units

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
Solderability Temp 215 °C	Steam Aging: Temp 93 °C,8Hrs System: SAS-3000 Solder Dipping: Solder Temp.215 °C Solder material: SnPb Sn63,Pb37 System: Ersa RA 2200D Visual Inspection: External Visual Inspection	JESD22B-102E	22 (0)	22 22 0/22	Pass	
Solderability Temp 245 °C	Steam Aging: Temp 93 °C,8Hrs System: SAS-3000 Solder Dipping:Solder Temp.245 °C Solder material:Pb Free Sn 95.5Ag3.9 Cu0.6 System: Ersa RA 2200D Visual Inspection: External Visual Inspection	JESD22B-102E	22 (0)	22 22 0/22	Pass	
Physical Dimensions	Physical Dimension, 30 units from 1 lot	JESD22-B100/B108	30(0) Units	0/30	Pass	
Bond Strength Data Assembly	Wire Pull (> 2.5 grams) Bond Shear (>15.00 grams)	M2011 JESD22-B116	30 (0) Wires 30 (0) bonds	0/30 0/30	Pass Pass	

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Affected Catalog Part Numbers (CPN)

PCN_JAON-01PHJW963
CATALOG_PART_NBR
DSPIC33EP512GP806-E/MR
DSPIC33EP512GP806-I/MR
DSPIC33EP512GP806T-E/MR
DSPIC33EP512GP806T-I/MR
DSPIC33EP512MC806-E/MR
DSPIC33EP512MC806-I/MR
DSPIC33EP512MC806T-E/MR
DSPIC33EP512MC806T-I/MR
DSPIC33FJ128GP206A-E/MR
DSPIC33FJ128GP206A-I/MR
DSPIC33FJ128GP206AT-E/MR
DSPIC33FJ128GP206AT-I/MR
DSPIC33FJ128GP306A-E/MR
DSPIC33FJ128GP306A-I/MR
DSPIC33FJ128GP306AT-E/MR
DSPIC33FJ128GP306AT-I/MR
DSPIC33FJ128GP706A-E/MR
DSPIC33FJ128GP706A-H/MR
DSPIC33FJ128GP706A-I/MR
DSPIC33FJ128GP706AT-E/MR
DSPIC33FJ128GP706AT-H/MR
DSPIC33FJ128GP706AT-I/MR
DSPIC33FJ128MC506A-E/MR
DSPIC33FJ128MC506A-H/MR
DSPIC33FJ128MC506A-I/MR
DSPIC33FJ128MC506AT-E/MR
DSPIC33FJ128MC506AT-H/MR
DSPIC33FJ128MC506AT-I/MR
DSPIC33FJ128MC706A-E/MR
DSPIC33FJ128MC706A-H/MR
DSPIC33FJ128MC706A-I/MR
DSPIC33FJ128MC706AT-E/MR
DSPIC33FJ128MC706AT-H/MR
DSPIC33FJ128MC706AT-I/MR
DSPIC33FJ64GP206A-E/MR
DSPIC33FJ64GP206A-I/MR
DSPIC33FJ64GP206AT-E/MR
DSPIC33FJ64GP206AT-I/MR
DSPIC33FJ64GP306A-E/MR
DSPIC33FJ64GP306A-I/MR
DSPIC33FJ64GP306AT-E/MR
DSPIC33FJ64GP306AT-I/MR
DSPIC33FJ64GP706A-E/MR

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PCN_JAON-01PHJW963
CATALOG_PART_NBR
DSPIC33FJ64GP706A-I/MR
DSPIC33FJ64GP706AT-E/MR
DSPIC33FJ64GP706AT-I/MR
DSPIC33FJ64MC506A-E/MR
DSPIC33FJ64MC506A-H/MR
DSPIC33FJ64MC506A-I/MR
DSPIC33FJ64MC506AT-E/MR
DSPIC33FJ64MC506AT-H/MR
DSPIC33FJ64MC506AT-I/MR
DSPIC33FJ64MC706A-E/MR
DSPIC33FJ64MC706A-I/MR
DSPIC33FJ64MC706AT-E/MR
DSPIC33FJ64MC706AT-I/MR
MRF24WB0/MR
MRF24WB0T/MR
PIC18F67K22-E/MR
PIC18F67K22-I/MR
PIC18F67K22-I/MRRSL
PIC18F67K22T-I/MR
PIC18F67K22T-I/MRRSL
PIC18F67K90-E/MR
PIC18F67K90-I/MR
PIC18F67K90-I/MRRSL
PIC18F67K90T-I/MR
PIC24EP512GP806-E/MR
PIC24EP512GP806-I/MR
PIC24EP512GP806T-E/MR
PIC24EP512GP806T-I/MR
PIC24FJ128DA106-I/MR
PIC24FJ128DA206-I/MR
PIC24FJ128GA106-E/MR
PIC24FJ128GA106-E/MRC18
PIC24FJ128GA106-I/MR
PIC24FJ128GA106-I/MRC18
PIC24FJ128GA106T-I/MR
PIC24FJ128GB106-I/MR
PIC24FJ128GB106T-I/MR
PIC24FJ128GB206-I/MR
PIC24FJ192GA106-E/MR
PIC24FJ192GA106-I/MR
PIC24FJ192GB106-I/MR
PIC24FJ256DA106-I/MR
PIC24FJ256DA206-I/MR

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PCN_JAON-01PHJW963
CATALOG_PART_NBR
PIC24FJ256GA106-E/MR
PIC24FJ256GA106-I/MR
PIC24FJ256GA106T-E/MR
PIC24FJ256GA106T-I/MR
PIC24FJ256GB106-I/MR
PIC24FJ256GB106T-I/MR
PIC24FJ256GB206-I/MR
PIC24FJ256GB206T-I/MR
PIC24FJ64GB106-I/MR
PIC24HJ128GP206A-E/MR
PIC24HJ128GP206A-I/MR
PIC24HJ128GP206AT-E/MR
PIC24HJ128GP206AT-I/MR
PIC24HJ128GP306A-E/MR
PIC24HJ128GP306A-I/MR
PIC24HJ128GP306AT-E/MR
PIC24HJ128GP306AT-I/MR
PIC24HJ128GP506A-E/MR
PIC24HJ128GP506A-H/MR
PIC24HJ128GP506A-I/MR
PIC24HJ128GP506AT-E/MR
PIC24HJ128GP506AT-H/MR
PIC24HJ128GP506AT-I/MR
PIC24HJ64GP206A-E/MR
PIC24HJ64GP206A-I/MR
PIC24HJ64GP206A-I/MR031
PIC24HJ64GP206A-I/MRA28
PIC24HJ64GP206AT-E/MR
PIC24HJ64GP206AT-I/MR
PIC24HJ64GP206AT-I/MR031
PIC24HJ64GP206AT-I/MRA28
PIC24HJ64GP506A-E/MR
PIC24HJ64GP506A-I/MR
PIC24HJ64GP506AT-E/MR
PIC24HJ64GP506AT-I/MR
PIC32MX320F032H-40I/MR
PIC32MX320F032H-40V/MR
PIC32MX320F032HT-40I/MR
PIC32MX320F032HT-40V/MR
PIC32MX320F064H-40I/MR
PIC32MX320F064H-40V/MR
PIC32MX320F064H-80I/MR
PIC32MX320F064H-80V/MR

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PCN_JAON-01PHJW963
CATALOG_PART_NBR
PIC32MX320F064HT-40I/MR
PIC32MX320F064HT-40V/MR
PIC32MX320F064HT-80I/MR
PIC32MX320F064HT-80V/MR
PIC32MX320F128H-80I/MR
PIC32MX320F128H-80V/MR
PIC32MX320F128HT-80I/MR
PIC32MX320F128HT-80V/MR
PIC32MX340F128H-80I/MR
PIC32MX340F128H-80V/MR
PIC32MX340F128HT-80I/MR
PIC32MX340F128HT-80V/MR
PIC32MX340F256H-80I/MR
PIC32MX340F256H-80V/MR
PIC32MX340F256HT-80I/MR
PIC32MX340F256HT-80V/MR
PIC32MX340F512H-80I/MR
PIC32MX340F512H-80V/MR
PIC32MX340F512HT-80I/MR
PIC32MX340F512HT-80V/MR
PIC32MX420F032H-40I/MR
PIC32MX420F032H-40V/MR
PIC32MX420F032HT-40I/MR
PIC32MX420F032HT-40V/MR
PIC32MX440F128H-80I/MR
PIC32MX440F128H-80V/MR
PIC32MX440F128HT-80I/MR
PIC32MX440F128HT-80V/MR
PIC32MX440F256H-80I/MR
PIC32MX440F256H-80V/MR
PIC32MX440F256HT-80I/MR
PIC32MX440F256HT-80V/MR
PIC32MX440F512H-80I/MR
PIC32MX440F512H-80V/MR
PIC32MX440F512HT-80I/MR
PIC32MX440F512HT-80V/MR
PIC32MX575F256H-80I/MR
PIC32MX575F256H-80V/MR
PIC32MX575F256HT-80I/MR
PIC32MX575F256HT-80V/MR
PIC32MX575F512H-80I/MR
PIC32MX575F512H-80V/MR
PIC32MX575F512HT-80I/MR

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PCN_JAON-01PHJW963
CATALOG_PART_NBR
PIC32MX575F512HT-80V/MR
PIC32MX675F256H-80I/MR
PIC32MX675F256H-80V/MR
PIC32MX675F256HT-80I/MR
PIC32MX675F256HT-80V/MR
PIC32MX675F512H-80I/MR
PIC32MX675F512H-80V/MR
PIC32MX675F512HT-80I/MR
PIC32MX675F512HT-80V/MR
PIC32MX695F512H-80I/MR
PIC32MX695F512H-80I/MRD21
PIC32MX695F512H-80V/MR
PIC32MX695F512HT-80I/MR
PIC32MX695F512HT-80I/MRD21
PIC32MX695F512HT-80V/MR
PIC32MX775F256H-80I/MR
PIC32MX775F256H-80V/MR
PIC32MX775F256HT-80I/MR
PIC32MX775F256HT-80V/MR
PIC32MX775F512H-80I/MR
PIC32MX775F512H-80I/MRE21
PIC32MX775F512H-80V/MR
PIC32MX775F512HT-80I/MR
PIC32MX775F512HT-80V/MR
PIC32MX795F512H-80I/MR
PIC32MX795F512H-80V/MR
PIC32MX795F512HT-80I/MR
PIC32MX795F512HT-80V/MR
PIC32MZ0512EFE064-E/MR
PIC32MZ0512EFE064-E/MRA21
PIC32MZ0512EFE064-I/MR
PIC32MZ0512EFE064T-E/MR
PIC32MZ0512EFE064T-E/MRA21
PIC32MZ0512EFE064T-I/MR
PIC32MZ0512EFF064-E/MR
PIC32MZ0512EFF064-I/MR
PIC32MZ0512EFF064T-E/MR
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PIC32MZ0512EFK064-E/MR
PIC32MZ0512EFK064-I/MR
PIC32MZ0512EFK064T-E/MR
PIC32MZ0512EFK064T-I/MR
PIC32MZ1024ECG064-I/MR

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PCN_JAON-01PHJW963
CATALOG_PART_NBR
PIC32MZ1024ECG064-I/MRDD9
PIC32MZ1024ECG064T-I/MR
PIC32MZ1024ECG064T-I/MRDD9
PIC32MZ1024ECH064-I/MR
PIC32MZ1024ECH064T-I/MR
PIC32MZ1024ECM064-I/MR
PIC32MZ1024ECM064T-I/MR
PIC32MZ1024EFE064-E/MR
PIC32MZ1024EFE064-I/MR
PIC32MZ1024EFE064T-E/MR
PIC32MZ1024EFE064T-I/MR
PIC32MZ1024EFF064-E/MR
PIC32MZ1024EFF064-I/MR
PIC32MZ1024EFF064T-E/MR
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PIC32MZ1024EFG064T-E/MR
PIC32MZ1024EFG064T-I/MR
PIC32MZ1024EFH064-E/MR
PIC32MZ1024EFH064-I/MR
PIC32MZ1024EFH064T-E/MR
PIC32MZ1024EFH064T-I/MR
PIC32MZ1024EFK064-E/MR
PIC32MZ1024EFK064-I/MR
PIC32MZ1024EFK064T-E/MR
PIC32MZ1024EFK064T-I/MR
PIC32MZ1024EFM064-E/MR
PIC32MZ1024EFM064-I/MR
PIC32MZ1024EFM064T-E/MR
PIC32MZ1024EFM064T-I/MR
PIC32MZ2048ECG064-I/MR
PIC32MZ2048ECG064T-I/MR
PIC32MZ2048ECH064-I/MR
PIC32MZ2048ECH064-I/MREE9
PIC32MZ2048ECH064T-I/MR
PIC32MZ2048ECH064T-I/MREE9
PIC32MZ2048ECM064-I/MR
PIC32MZ2048ECM064T-I/MR
PIC32MZ2048EFG064-E/MR
PIC32MZ2048EFG064-I/MR
PIC32MZ2048EFG064T-E/MR
PIC32MZ2048EFG064T-I/MR

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PCN_JAON-01PHJW963
CATALOG_PART_NBR
PIC32MZ2048EFH064-E/MR
PIC32MZ2048EFH064-I/MR
PIC32MZ2048EFH064T-E/MR
PIC32MZ2048EFH064T-I/MR
PIC32MZ2048EFM064-E/MR
PIC32MZ2048EFM064-I/MR
PIC32MZ2048EFM064T-E/MR
PIC32MZ2048EFM064T-I/MR
PIC24FJ64GA106-E/MR
PIC24FJ64GA106-I/MR
PIC24FJ64GA106T-I/MR
PIC24FJ64GA106T-I/MR029
PIC24FJ64GA106T-I/MR032
PIC24FJ64GA106T-I/MR033
PIC24FJ64GA106T-I/MR035