



**MICROCHIP**

**QUALIFICATION REPORT  
RELIABILITY LABORATORY**

**PCN #: CYER-27ZBHN138**

Date  
September 11, 2013

Qualification of selected products available in the 8L SOIC package with palladium coated copper (PdCu) bond wire at MTAI assembly site.

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## MICROCHIP PACKAGE QUALIFICATION REPORT

<b>Purpose</b>	Qualification of selected products available in the 8L SOIC package with palladium coated copper (PdCu) bond wire at MTAI assembly site.
<b>CN</b>	BC130355
<b>QUAL ID</b>	Q13060
<b>MP CODE</b>	C50237C2XB04
<b>Part No.</b>	PIC12F675-I/SN
<b>Bonding No.</b>	A-042191 Rev. B
<b>CCB No.</b>	1155.04
<b><u>Package</u></b>	
<b>Type</b>	8L SOIC
<b>Package size</b>	150 mils
<b>Die thickness</b>	15 mils
<b>Die size</b>	77.90 x85.70 mils
<b><u>Lead Frame</u></b>	
<b>Paddle size</b>	95 x 158 mils
<b>Material</b>	CDA194
<b>Surface</b>	Brown Oxide Treatment
<b>Process</b>	Stamp
<b>Lead Lock</b>	No
<b>Part Number</b>	10100807
<b><u>Die attach material</u></b>	
<b>Epoxy</b>	8390A
<b>Wire</b>	PdCu wire
<b>Mold Compound</b>	G600V
<b>Plating Composition</b>	Matte Tin



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### Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
MT AI140402046	TMPE213445640.110	1317T3B
MT AI140402217	TMPE213445640.110	1317TAE
MT AI140402218	TMPE213445640.110	1317TAG

### Result

Pass     Fail     \_\_\_\_\_

8L SOIC 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:** \_\_\_\_\_ **Date:** August 22, 2013 (Reliability Engineer)

(Mr. Thinnapol Nakkasun)

**Approved By:** \_\_\_\_\_ **Date:** August 22, 2013 (Reliability Manager)

(Mr. Somnuek Thongprasert)

# PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS	Result	Remarks
<b>Moisture/Reflow Sensitivity Classification Test (At MSL Level 1)</b>	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 J-STD-020D	135	0/135	Pass	

<b><u>Precondition</u></b> <b><u>Prior Perform</u></b> <b><u>Reliability Tests</u></b> <b>(At MSL Level 1)</b>	<b>Electrical Test</b> :+25°C,85°C and 125°C System: J750	JESD22-A113	693(0)	693	Pass	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		
	<b>Electrical Test</b> :+25°C,85°C and 125°C System: J750			0/693		

# PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
<b>Temp Cycle</b>	<b>Stress Condition:</b> (Standard) -65°C to +150°C, 50, 250, 500 Cycles System : TABAI ESPEC TSA-70H <b>Electrical Test:</b> + 85°C and 125°C System: J750	JESD22- A104	231(0)	0/231	Pass	
<b>UNBIASED-HAST</b>	<b>Stress Condition:</b> (Standard) +130°C/85%RH, 96 hrs. System: HAST 6000X <b>Electrical Test:</b> + 25°C System: J750	JESD22- A118	231(0)	0/231	Pass	
<b>HAST</b>	<b>Stress Condition:</b> (Standard) +130°C/85%RH, 96 hrs. <b>Bias Volt:</b> 5.5 Volts System: HAST 6000X <b>Electrical Test:</b> +25°C,85°C and 125°C System: J750	JESD22- A110	231(0)	0/231	Pass	

## PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
<b>High Temperature Storage Life</b>	<b>Stress Condition:</b> Bake 175°C, 504 hrs System: SHEL LAB	JESD22- A103		45		45 units
	<b>Electrical Test:</b> :+ 25°C,85°C and 125°C System: J750		45(0)	0/45	Pass	
<b>Bond Strength Data Assembly</b>	Wire Pull (> 2.5 grams)	JESD22- B116	30 (0) Wires	0/30	Pass	
	Bond Shear (15.00 grams)		30 (0) bonds	0/30	Pass	