



MICROCHIP

QUALIFICATION REPORT
RELIABILITY LABORATORY

PCN #: JAON-06OHXH747

Date
May 06, 2016

**Qualification of MTAI assembly site as an additional
site for selected Supertex products available in 8L
MSOP package.**

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MICROCHIP

PACKAGE QUALIFICATION REPORT

Purpose	Qualification of MTAI assembly site as an additional site for selected Supertex products available in 8L MSOP package.
CN	BC160425
QUAL ID	Q15198
MP CODE	65002CA3XA00
Part No.	HV852MG-G
Lot No.	MTAI164202881.000
Bonding No.	BDM-000927 Rev.A
CCB No.	1829

Package

Type	8L MSOP
Package size	3x3 mm
Die thickness	8 mils
Die size	90.2 x 61.9 mils

Lead Frame

Paddle size	84 x 106 mils
Material	CDA194
Surface	Ag spot
Process	Stamped
Lead Lock	No
Part Number	10100835
Treatment	None

Die attach material

Epoxy (Silver paste)	8390A
Wire	Au wire
Mold Compound	G600V
Plating Composition	Matte Tin



MICROCHIP PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
MTAI164202881.000	TMPE215517885.200	1602G8H

Result

☒ Pass ☐ Fail ☐ _____

8L MSOP assembled by MTAI pass reliability test per Supertex standard qual plan for SMD Package. 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 06, 2016 (Sr.Reliability Engineer)

(Mr.Thinnapol Nakkasun)

Approved By: Somnuek Date: May 06, 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	25	0/25	Pass	

**Precondition
Prior Perform
Reliability Tests
(At MSL Level 1)**

	Bake 150 °C, 24 hrs System: CHINEE			250		
	85 °C/ 85%RH Moisture Soak 168 hrs. System: TABAI ESPEC Model PR-3SPH			250		
	3x Convection-Reflow 265 °C max System: Vitronics Soltec MR1243			250		
	Electrical Test : Post test at MTAI			0/250	Pass	

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS	Result	Remarks
TEST 1: ASSEMBLY PROCESS CHARACTERIZATION						
Bond Shear	Bond Shear (Minimum: 18.0 grams)	JESD22-B116A	30 (0) Wires	0/30	Pass	
Wire Bond Pull	Wire Pull (Minimum:4.0 grams)	MIL-STD-883J-M2011.9 Condition C or D	30 (0) Wires	0/30	Pass	
X-ray	N/A	X-Ray	2 (0)	0/2	Pass	
Terminal Plating Thickness	N/A	XRF or else	5 (0)	0/5 Units	Pass	
Terminal Plating /Solder	N/A	XRF,RoH S report or else	5 (0)	0/5 Units	Pass	
TEST 2: FINAL TEST						
Post-Assembly Final Test Yield	Per device spec	Per device spec	700(0)	0/700	Pass	
	Electrical Test: Post Test at MTAI	>85% test yield				

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
TEST 3: PACKAGE INTEGRITY AND MECHANICAL TEST						
Visual Examination	Stress Condition: Supertex spec#QCGP-1001	Supertex spec#QCG P-1001	315(0)	0/315	Pass	Test Location: MMT
Solderability (Tin-alloy)	Stress Condition: 1) Condition C (Tin-alloy):8 hrs. Steam age; 2) Test Method 1:Dip&Look Test; Group 1:Test to SnPb solder (215+/-5 C); Group 2:Test to Pb-free solder (245+/-5C);	JESD22- B102E	8(0) 8(0)	0/8 0/8	Pass Pass	Test Location: Reliability MTAI

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
TEST 4: PACKAGE INTEGRITY AND MECHANICAL TEST						
Precondition Prior Perform Reliability Tests (At MSL Level 1)	Stress Condition: -Bake 150 °C, 24 hrs System: CHINEE -85 °C/85%RH Moisture Soak 168 hrs. System: TABAI ESPEC Model PR-3SPH -3x Convection-Reflow 265 °C max System: Vitronics Soltec MR1243 Electrical Test: Post test	JESD22-A113F	250(0)	0/250	Pass	Test Location: Reliability MTAI
Auto Clave	Stress Condition: 1) for SMD,MSL pre-conditioned prior to test 2) 121C/100%RH / 15PSIG / 168 hrs Electrical Test: Post test	JESD22-A102D	45 (0)	0/45	Pass	Test Location: Reliability MMT
Thermal Shock	Stress Condition: 1) for SMD,MSL pre-conditioned prior to test 2) Cond B:-55 to 125C / 200 cyc Electrical Test: Post test	MIL-STD-883HM1011.9	45(0)	0/45	Pass	Test Location: Reliability MMT
Temperature Cycling	Stress Condition: 1) for SMD,MSL pre-conditioned prior to test 2) Cond C:-65 to 150C / 500 cyc Electrical Test: Post test	MIL-STD-883HM1010.8	45(0)	0/45	Pass	Test Location: Reliability MTAI
HAST	Stress Condition: 1) for SMD,MSL pre-conditioned prior to test 2) biased @/130 °C/85 %RH for 96 hrs Electrical Test: Post test	JESD22-A101C	45(0)	0/45	Pass	Test Location: Reliability MTAI

JAON-06OHXH747 - CCB 1829 Final Notice: Qualification of MTAI assembly site as an additional site for selected Supertex products available in 8L MSOP package.

Affected Catalog Part Numbers (CPN)

PCN_JAON-06OHXH747
CATALOG_PART_NBR
HV7802MG-G
HV825MG-G
HV833MG-G
HV850MG-G
HV850MG-G-S329
HV852MG-G
HV853MG-G
HV857LMG-G
HV857MG-G
HV859MG-G