QUALIFICATION REPORT SUMMARY

RELIABILITY LABORATORY

PCN #: RMES-10TYKT692

Date:
July 02, 2019

Qualification of NSEB as a new assembly site for selected products available in 8L DFN (4x4x0.9mm) package.

MICROCHIP

PACKAGE QUALIFICATION REPORT

Purpose	Qualification of NSEB as a new assembly site for selected products available in 8L DFN (4x4x0.9mm) package.
CCB No.	3674
CN	ES291544
QUAL ID	Q19062 Rev. A
MP CODE	VGGA14M8XV21
Part No.	MCP8063-E/MDVAO
Bonding No.	BDM-002022 Rev. A
<u>Package</u>	
Type	8L DFN
Package size	4x4x0.9 mm
Die thickness	8 mils
Die size	61.7 x 84.3 mils
<u>Lead Frame</u>	
Paddle size	114 x 146 mils
Material	C194
Surface	Ag no lead and Ag on PAD
Process	Etched
Lead Lock	Yes
Part Number	FR0225
<u>Material</u>	
Epoxy	8600
Wire	Au wire
Mold Compound	G700LTD
Plating Composition	Matte Tin

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PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
NSEB195100067.000	TC03915327695.100	1912HTU
NSEB195100068.000	TC03915327695.100	1912HU0
NSEB195100069.000	TC03915327695.100	1912HU8

Result [X] Pass [ ] Fail [ ] ____________________

8L DFN 4x4x0.9 mm assembled by NSEB 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-020E standard.

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-020E)	IPC/JEDEC J-STD-020E	135	0/135	Pass	

Test Number (Reference)	Test Condition	Standard / Method	Qty. (Acc.)	Def/SS	Result	Remarks
Precondition Prior Perform Reliability Tests (At MSL Level 1)	**Electrical Test :**+25°C and 125°C System: ETS300	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			693		
	System: Vitronics Soltec MR1243					
	Electrical Test :+25°C and 125°C System: ETS300			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	JESD22-A104		231		Parts had been pre-conditioned at 260°C
	Electrical Test: +125°C System: ETS300		231(0)	0/231	Pass	77 units / lot
	Bond Strength: Wire Pull (> 8.00 grams) Bond Shear (>20.00 grams)		15 (0) 15 (0)	0/15 0/15	Pass Pass	
UNBIASED-HAST	**Stress Condition:** +130°C/85%RH, 96 hrs. System: HAST 6000X	JESD22-A118		231		Parts had been pre-conditioned at 260°C
	Electrical Test: +25°C System: ETS300		231(0)	0/231	Pass	77 units / lot
HAST	**Stress Condition:** +130°C/85%RH, 96 hrs. **Bias Volt:** 3.3 Volts System: HAST 6000X	JESD22-A110		231		Parts had been pre-conditioned at 260°C
	Electrical Test:+25°C and 125°C System: ETS300		231(0)	0/231	Pass	77 units / lot

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
High Temperature Storage Life	**Stress Condition:** Bake 175°C, 500 hrs System: SHEL LAB **Electrical Test :**+25°C and 125°C System: ETS300	JESD22-A103	 45(0)	45 0/45	 Pass	45 units
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	J-STD-002	22 (0)	22 22 0/22	Pass	
Physical Dimensions	Physical Dimension, 10 units from 1 lot	JESD22-B100/B108	30(0) Units	0/30	Pass	
Bond Strength Data Assembly	Wire Pull (> 8.00 grams) Bond Shear (>20.00 grams)	M2011 JESD22-B116	30 (0) Wires 30 (0) bonds	0/30 0/30	Pass Pass	