



MICROCHIP

QUALIFICATION REPORT SUMMARY
RELIABILITY LABORATORY

PCN#: KSRA-05ATCO683

Date:
May 24, 2019

This is a Q100 grade 1 qualification of GTBF as a new assembly site for selected products of 0.8um XFAB, 0.8um AMS and 0.6um AMI, 130K and 133K wafer technologies available in 5L DDPAK package with MSL 3 classification. The selected products available 3L DDPAK package will qualify by similarity (QBS).



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CN ES286589
QUAL ID Q19036
MP CODE Y1AD34J7XB30
Part No. MCP1791-3002E/ET
Document No.: Q19036 Rev A.
Bonding No. BDM-001893 Rev. B
CCB No.: 3454 and 3454.001

Package

Type 5L DDPAK
Die thickness 15 mils
Die size 62.5 x 63.4 mils

Lead Frame

Paddle size 266 x 174 mils
Material LY80
Surface Spot Ag
Process Stamped
Lead Lock Yes
Part Number A1-T0263-5-1CFAG

Material

Epoxy CRM-1800
Wire Au wire
Mold Compound EME-G600
Plating Composition Matte Tin

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
GTBF194400017.000	AS0B910092055.800	19057RU
GTBF194400018.000	AS0B910092055.800	19057T3
GTBF194400019.000	AS0B910092055.800	19057TY

Result

Pass Fail _____

5L DDPK assembled by GTBF pass reliability test per QCI-39000. This package was qualified the Moisture/Reflow Sensitivity Classification Level 3 at 245°C reflow temperature per IPC/JEDEC J-STD-020E standard.

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard / Method	Qty. (Acc.)	Def/S S	Result	Remarks
Moisture/Reflow Sensitivity Classification Test (At MSL Level 3)	30°C/ 60%RH Moisture Soak 192 hrs. System: TABAI ESPEC Model PR-3SPH 3x Convection-Reflow 250°C max System: Vitronics Soltec MR1243 (IPC/JEDEC J-STD-020E)	IPC/JEDEC C J-STD-020E	135	0/135	Pass	
Precondition Prior Perform Reliability Tests (At MSL Level 3)	Electrical Test :+25°C and 125°C System: TTS Bake 150°C, 24 hrs System: CHINEE 30°C/60%RH Moisture Soak 192 hrs. System: TABAI ESPEC Model PR-3SPH 3x Convection-Reflow 250°C max System: Vitronics Soltec MR1243 Electrical Test :+25°C and 125°C System: TTS	JESD22-A113	693(0)	693 693 693 0/693	 Pass	Good Devices
Temp Cycle	Stress Condition: -65°C to +150°C, 500 Cycles System : TABAI ESPEC TSA-70H Electrical Test: +125°C System: TTS Bond Strength: Wire Pull (> 5.00 grams) Bond Shear (>25.00 grams)	JESD22-A104	 231(0) 15 (0) 15 (0)	231 0/231 0/15 0/15	 Pass Pass Pass	Parts had been pre-conditioned at 245°C 77 units / lot
UNBIASED-HAST	Stress Condition: +130°C/85%RH, 96 hrs. System: HAST 6000X Electrical Test: +25°C System: TTS	JESD22-A118	 231(0)	231 0/231	 Pass	Parts had been pre-conditioned at 245°C 77 units / lot
HAST	Stress Condition: +130°C/85%RH, 96 hrs. Bias Volt: 30.0 Volts System: HAST 6000X Electrical Test: +25°C and 125°C System: TTS	JESD22-A110	 231(0)	231 0/231	 Pass	Parts had been pre-conditioned at 245°C 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, 504 hrs System: SHEL LAB	JESD22-A103		45		45 units
	Electrical Test :+25°C and 125°C System: TTS		45(0)	0/45	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	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 (> 5.00 grams)	M2011	30 (0) Wires	0/30	Pass	
	Bond Shear (>25.00 grams)	JESD22-B116	30 (0) bonds	0/30	Pass	