



QUALIFICATION PLAN SUMMARY

PCN #: GBNG-11SJBT182

**Date:
February 09, 2021**

Qualification of a new fabrication site (Microchip – Fab 5) for various Microsemi products.

Purpose: Qualification of a new fabrication site (Microchip – Fab 5) for various Microsemi products.

CCB No: 4526

Note: All tests shown below may not be applied to every process technology qualification, as determined by the combination of the product technology, package and die tested.

Screening Flow Example Qualification Tests

Test (in order)	Conditions	TX Level
INTERNAL VISUAL	PRECAP	LTPD
STABILIZATION BAKE	24 HRS @ +150°C	100%
TEMPERATURE CYCLE	20 CYCLES, -65°C TO +150°C, 15 MIN. Dwell	100%
ACCELERATION	20,000 Gs, Y1 ONLY. NOTE 2: TESTING APPLIES ONLY TO PACKAGE STYLE DEVICES WITH AN INTERNAL CAVITY.	100%
FINE LEAK	CONDITION H. NOTE 4: MAX LEAK RATES ARE AS FOLLOWS: CERAMIC STYLE PACKAGES: 2 x 10 (-8), AXIAL LEADED: 1 x 10 (-8).	100%
GROSS LEAK	CONDITION C	100%
ELECTRICAL TEST	IR, MIN. RATED VB, VF. NOTE 5: VB TESTING NOT ON SCHOTTKY DEVICES.	100%
HTRB	T=125C, VR=80% MIN. RATED Vb, t=48 HRS	100%
ELECTRICAL TEST	IR, MIN. RATED VB, VF. NOTE 5: VB TESTING NOT ON SCHOTTKY DEVICES. NOTE 6: POST HTRB MEASUREMENTS TO BE COMPLETED WITHIN 24 HRS	100%
PDA	NOTE 7: 10% Reject Level	100%
BURN-IN	T=125C, IF=25 mA (10mA Schottky), t=96 HRS	100%
ELECTRICAL TEST	IR, MIN. RATED VB, VF. NOTE 5: VB TESTING NOT ON SCHOTTKY DEVICES. NOTE 8: POST BURN-IN MEASUREMENTS TO BE DONE WITHIN 96 HRS	100%
PDA	NOTE 7: 10% Reject Level	100%
EXTERNAL VISUAL	AFTER MARKING, PRIOR TO LOT ACCEPTANCE	LTPD

Group A/B/C/E Example Qualification Tests:

- **Group A (Electrical Verification)**
 - Electrical parameter testing over 3 temperatures-25C, Max and Min., Visual/Mechanical
- **Group B (Mechanical Verification)**
 - Physical Dimension, Solderability, Thermal Resistance, Temp. Cycling. Fine/Gross Leak, Intermittent Op. Life and/or Steady State Op. Life, High Temperature Life, all followed by electrical test
- **Group C (Long Term Reliability Verification)**
 - Thermal Shock, vibration, acceleration followed by electrical test
- **Group E (Package Qualification)**
 - Thermal Shock, Thermal Resistance, Temp. cycling, Bond strength, ESD