

Quarterly Reliability Monitoring Results

Quarters: Q1/2023 to Q4/2024

Based on structural similarity

Supplier	User Part Number	
Nexperia B.V.	BZT52H-B68-Q	
Name of Laboratory	Part Description	
Assembly reliability labs	Nexperia DHAM Zener SMD package	
Based on AEC-Q101 Test	Test Conditions	Duration # Lots # Quantity # Rejects
# E1	TEST Pre- and Post-Stress Electrical Test Tamb = 25 °C	N/A see below all parts see below
# A1	PC Preconditioning JESD22-A113 Bake Tamb = 125 °C Soak Tamb = 85 °C, RH = 85% Reflow soldering	24 hours 168 hours 3 cycles 1602 61540 0
# B1	HTRB High Temperature Reverse Bias MIL-STD-750-1 M1038 Method A Tj = Tjmax, VR = 80 % of rated reverse voltage	1000 hours 256 10240 0
# B1b	SSOP Steady State Operational MIL-STD-750-1 M1038 Method B Tj = Tjmax, Iz = 100% of max. datasheet reverse current	1000 hours 51 2040 0
# A4	TC Temperature Cycling JESD22-A104 -65 °C to Tjmax, not to exceed 150°C	1000 cycles 337 13480 0
# A3 or	UHAST Unbiased HAST JESD22-A118 Tamb = 130 °C, RH = 85 %	96 hours 337 13480 0
# A3 alt	AC Autoclave JESD22-A102 Tamb = 121 °C, RH = 100 % Pressure = 205 kPa (29.7 psia)	
# A2 alt	H3TRB High Humidity High Temperature Reverse Bias JESD22-A101 Tamb = 85 °C, RH = 85%, VR = 80 % of rated reverse voltage ^[1]	1000 hours 337 13480 0
# A5	IOL Intermittent Operating Life MIL-STD-750 Method 1037 ton = toff, devices powered to insure ΔTj = 100 °C for 15000 cycles	1000 hours 337 13480 0
# C8	RSH Resistance to Solder Heat JESD22-A111 260 °C ± 5 °C	10 s 254 7620 0
# C10	SD Solderability J-STD-002	19 6300 0

[1] The maximum applied voltage is limited by test chamber set up and does not exceed 115V.

Calculation of FIT and MTF

Test considered for FIT calculation: High Temperature Reverse Bias (HTRB, Test #B1)

Confidence level 60%, derated to 55 °C, activation energy 0.7 eV, test time 168 to 1000 hours

Wafer Fab	Technology	Quantity	Rejects	Failure Rate (FIT)	MTTF (hrs)
Nexperia DHAM	Zener	10240	0	0,41	2,41E+09

© 2025 Nexperia B.V.

All information hereunder is per Nexperia's best knowledge. This document does not provide for any representation or warranty express or implied by Nexperia. In case Nexperia has tested the product, this documentation reflects the outcome of the analysis of the actually tested parts only.

[nexperia.com](https://www.nexperia.com)