

## Quarterly Reliability Monitoring Results

Quarters: Q1/2021 to Q4/2021

Based on structural similarity

Supplier		User Part Number				
Nexperia B.V.		BZX884S-C33				
Name of Laboratory		Part Description				
Assembly reliability labs		Nexperia DHAM		Zener		
MCD package						
Test		Test Conditions	Duration	# Lots	# Quantity	# Rejects
# 1	<b>TEST</b>					
	Pre- and Post-Stress Electrical Test	Tamb = 25 °C	N/A	see below	all parts	see below
# 2	<b>PC</b>	JESD22-A113	24 hours			
	Preconditioning	Bake Tamb = 125 °C Soak Tamb = 85 °C, RH = 85% Reflow soldering	168 hours 3 cycles	113	9040	0
# 5	<b>HTRB</b>	MIL-STD-750-1				
	High Temperature Reverse Bias	M1038 Method A Tj = Tjmax, Vr = 100% of max. datasheet reverse voltage	1000 hours	138	11040	0
# 5c	<b>SSOP</b>	MIL-STD-750-1				
	Steady State Operational	M1038 Method B Tj = Tjmax, Iz = 100% of max. datasheet reverse current	1000 hours	20	1600	0
# 7	<b>TC</b>	JESD22-A104				
	Temperature Cycling	-65 °C to Tjmax, not to exceed 150°C	1000 cycles	28	2240	0
# 8	<b>AC</b>	JESD22-A102				
	Autoclave	Tamb = 121 °C, RH = 100 % Pressure = 205 kPa (29.7 psia)	96 hours	28	2240	0
# 9	<b>H3TRB</b>	JESD22-A101				
	High Humidity High Temperature Reverse Bias	Tamb = 85 °C, RH = 85%, VR = 80 % of rated reverse voltage <sup>[1]</sup>	1000 hours	28	2240	0
# 10	<b>IOL</b>	MIL-STD-750 Method 1037				
	Intermittent Operating Life	ton = toff, devices powered to insure ΔTj = 100 °C for 15000 cycles	1000 hours	29	2320	0
# 20	<b>RSH</b>	JESD22-A111				
	Resistance to Solder Heat	260 °C ± 5 °C	10 s	n.a.	n.a.	n.a.
# 21	<b>SD</b>	J-STD-002				
	Solderability			63	630	0

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

### Calculation of FIT and MTTF

Test considered for FIT calculation: High Temperature Reverse Bias (HTRB, Test # 5)

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	11040	0	0.38	2.60E+09

© 2022 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)