

Quarterly Reliability Monitoring Results

Quarters: Q1/2023 to Q4/2024

Based on structural similarity

Supplier		User Part Number				
Nexperia B.V.		PMEG3005ESF				
Name of Laboratory		Part Description				
Assembly reliability labs		Nexperia DHAM Schottky BD				
Test	Test Conditions	Duration	# Lots	# Quantity	# Rejects	
# 1	TEST Pre- and Post-Stress Electrical Test	Tamb = 25 °C	N/A	see below	all parts	see below
# 5	HTRB High Temperature Reverse Bias	MIL-STD-750-1 M1038 Method A Tj = Tjmax, Vr = 100% of max. datasheet reverse voltage ^[1]	1000 hours	79	3160	0
# 7	TC Temperature Cycling	JESD22-A104 -40 °C to 125°C	1000 cycles	79	3160	0
# 8 or	UHAST Unbiased HAST	JESD22-A118 Tamb = 130 °C, RH = 85 %	96 hours	n.a.	n.a.	n.a.
# 8a	AC Autoclave	JESD22-A102 Tamb = 121 °C, RH = 100 % Pressure = 205 kPa (29.7 psia)				
# 9	H3TRB High Humidity High Temperature Reverse Bias	JESD22-A101 Tamb = 85 °C, RH = 85%, VR = 80 % of rated reverse voltage ^{[1], [2]}	1000 hours	n.a.	n.a.	n.a.
# 10	IOL Intermittent Operating Life	MIL-STD-750 Method 1037 ton = toff, devices powered to insure ΔTj = 100 °C	333 hours	79	3160	0
# 20	RSH Resistance to Solder Heat	JESD22-A111 260 °C ± 5 °C	10 s	n.a.	n.a.	n.a.
# 21	SD Solderability	J-STD-002		19	570	0

[1] The physical limitations of Schottky diodes have to be considered (thermal runaway).

[2] 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	Schottky	3160	0	1,34	7,44E+08

© 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.