Quarterly Reliability Monitoring Results

Quarters: Q1/2022 to Q4/2023

Based on structural similarity

Supplier		**User Part Number**				
Nexperia B.V.		PMEG3010AESB				
Name of Laboratory		**Part Description**				
		Nexperia DHAM	Schottky			
Assembly reliability labs		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	71	3120	0
# 7	**TC** Temperature Cycling	JESD22-A104 -40 °C to 125°C	1000 cycles	71	3120	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	71	3120	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	3120	0	1,36	7,35E+08

© 2024 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