

Quarterly Reliability Monitoring Results

Quarters: Q1/2020 to Q4/2020

Based on structural similarity

Supplier		User Part Number				
Nexperia B.V.		PESD5V0H1BSF				
Name of Laboratory		Part Description				
Assembly reliability labs		NXP ICN8 BD package Protection INDI				
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	1000 hours	48	3840	0
# 7	TC Temperature Cycling	JESD22-A104 -40 °C to 125°C	1000 cycles	80	6400	0
# 8	AC Autoclave	JESD22-A102 Tamb = 121 °C, RH = 100 % Pressure = 205 kPa (29.7 psia)	96 hours	n.a.	n.a.	n.a.
# 9	HAST Highly Accelerated Stress Test	JESD22-A110 Tamb = 130 °C, RH = 85%, VR > 80 % of rated reverse voltage	1000 hours	80	6400	0
# 10	IOL Intermittent Operating Life	MIL-STD-750 Method 1037 ton = toff, devices powered to insure ΔTj = 100 °C for 15000 cycles	1000 hours	n.a.	n.a.	n.a.
# 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 Test method B and D		12	120	0

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)
NXP ICN8	Protection INDI	3840	0	1,1	9,04E+08

© 2021 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