nexperia

Quarterly Reliability Monitoring Results

Quarters: 04/2018 to 03/2019

Based on structural similarity

Supplier		User Part Number				
Nexperia B.V.		PESD2V8R1BSF				
Name of Laboratory		**Part Description**				
		NXP ICN8	Protection INDI			
Assembly reliability labs		BD package				
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	29	2320	0
# 7	**TC** Temperature Cycling	JESD22-A104 -40 °C to 125°C	1000 cycles	50	4000	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	50	4000	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	2320	0	1,8	5,46E+08

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