nexperia

Quantity

all parts

26159

6000

6479

Rejects

see below

0

0

0

Reliability Results for Product Type NXP3875G

Time period: Q4/2015 to Q3/2016

Test Results AEC-Q101 Test Conditions Duration TEST # 1 $T_{amb} = 25 \ ^{\circ}C$ Pre- and Post-Stress N/A **Electrical Test** JESD22-A113 Bake Tamb = 125 °C 24 hours PC # 2 Preconditioning Soak $T_{amb} = 85 \text{ °C}$, RH = 85% 168 hours Reflow soldering 3 cycles MIL-STD-750-1 HTRB M1038 Method A # 5 **High Temperature** 1000 hours T_{j} = $T_{jmax},\,Vr$ = 100% of max. **Reverse Bias** datasheet reverse voltage JESD22-A104 тс # 7 1000 cycles Temperature Cycling -55 °C to Tim not to exceed 150°C

	remperature Cycling	-55 °C to T _{jmax} , not to exceed 150°C			
# 8	AC Autoclave	JESD22-A102 T _{amb} = 121 °C, RH = 100 % Pressure = 205 kPa (29.7 psia)	96 hours	6560	0
# 9	H3TRB High Humidity High Temperature Reverse Bias	JESD22-A101 T_{amb} = 85 °C, RH = 85%, V _R > 80 % of rated reverse voltage	1000 hours	6560	0
# 10	IOL Intermittent Operating Life	$ \begin{array}{l} \text{MIL-STD-750 Method 1037} \\ t_{\text{on}} = t_{\text{off}} \text{, devices powered to insure} \\ \Delta T_{j} = 125 \ ^{\circ}\text{C} \text{ for 7500 cycles or} \\ \Delta T_{j} = 100 \ ^{\circ}\text{C} \text{ for 15000 cycles} \end{array} $	1000 hours	6560	0
# 20	RSH Resistance to Solder Heat	JESD22-A111 260 °C ± 5 °C	10 s	2340	0
# 21	SD Solderability	J-STD-002 Test method B and D		1500	0

Calculation of FIT and MTBF

Test considered for FIT calculation: High Temperature Reverse Bias (HTRB, AEC-Q101 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	e MTBF
Nexperia DHAM	Small Signal Bipolar	6000	0	0.71 FIT	161178 years

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