nexperia

Reliability Monitoring Results

Quarters: Q1/2021 to Q4/2021

Based on structural similarity

Suppli	er	User Part Number							
Nexperia B.V.		74AUP1G157GM-Q100	74AUP1G157GM-Q100						
Part D	escription: Single 2-input r	multiplexer							
Pro	action Family: AUP cess family: C075 kage family: XSON								
JESD4	7 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			
# 2	PC Preconditioning	JESD22-A113 MSL 1	N/A	1007	27163	0			
# 5a	HTOL EFR High Temperature Operating Life Extrinsic	JESD22-A108 Tj = 150°C $V_{CCMAX} \le V \le 1.2*V_{CCMAX}$	48 hours or 168 hours	219	38230	0			
# 5b	HTOL IFR High Temperature Operating Life Intrinsic	JESD22-A108 Tj = 150°C $V_{CCMAX} \le V \le 1.2*V_{CCMAX}$	≥500 hours	84	6277	0			
# 7	TC Temperature Cycling	JESD22-A104 -65 °C to 150°C	≥500 cycles	548	15036	0			
# 9	uHAST / HAST unbiased or biased High Accelerated Stress Test	JESD22-A101 Tamb = 130 °C, RH = 85%, V = V _{CCMAX}	96 hours	520	12127	0			

Calculation of PPM, FIT and MTTF

Test considered for PPM calculation: High Temperature Operating LifeTest Extrinsic (HTOL EFR, Test # 5a above) Test considered for FIT and MTTF calculations: High Temperature Operating LifeTest Intrinsic(HTOL IFR, Test # 5b above)

Confidence level 60%, derated to 55 °C, activation energy 0.7 eV, test time 168 to 1000 hours

Product Family	Package Family	Quantity	Rejects	Extrinsic Failure Rate (PPM)	Intrinsic Failure Rate (FIT)	MTTF (hrs)
AUP	XSON	6277	0	24	0.7	1.5 E+09

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.