nexperia

Reliability Monitoring Results

Quarters: Q1/2022 to Q4/2022

Based on structural similarity

Suppli	er	User Part Number						
Nexperia B.V.		74AUP2G06GM						
Part D	escription: Dual inverter; o	open-drain						
Pro	nction Family: AUP cess family: C075 kage family: XSON							
JESD4	7 Test	Test Conditions	Duration	# Lots	# Quantity	# Rejects		
<i>щ</i> 1	TEST	Tamb = 25 °C	NI / A	aaa balaw		see		
# 1	Pre- and Post-Stress Electrical Test		N/A	see below	all parts	below		
# 2	PC Preconditioning	JESD22-A113 MSL 1	N/A	1125	29955	0		
# 5a	HTOL EFR High Temperature	JESD22-A108 Tj = 150°C	48 hours or	240	41981	0		
# 5b	Operating Life Extrinsic HTOL IFR High Temperature Operating Life Intrinsic	$V_{CCMAX} \le V \le 1.2^*V_{CCMAX}$ JESD22-A108 Tj = 150°C V_{CCMAX} \le V \le 1.2^*V_{CCMAX}	168 hours ≥500 hours	99	7448	0		
# 7	TC Temperature Cycling	JESD22-A104 -65 °C to 150°C	≥500 cycles	589	16980	0		
# 9	uHAST / HAST unbiased or biased High Accelerated Stress Test	JESD22-A101 Tamb = 130 °C, RH = 85%, V = V _{CCMAX}	96 hours	536	12975	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	7448	0	22	0.6	1.83 E+09

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