

## Reliability Monitoring Results

**Quarters:** Q1/2024 to Q4/2024

Based on structural similarity

Supplier		User Part Number				
Nexperia B.V.		74AXP1T57DC				
<b>Part Description:</b> Single dual-supply translating configurable gate; Schmitt-trigger inputs						
Function Family: AXP Process family: C050 Package family: VSSOP						
JESD47 Test		Test Conditions	Duration	# Lots	# Quantity	# Rejects
# 1	<b>TEST</b> Pre- and Post-Stress Electrical Test	Tamb = 25 °C	N/A	see below	all parts	see below
# 2	<b>PC</b> Preconditioning	JESD22-A113 MSL 1	N/A	288	12442	0
# 5a	<b>HTOL EFR</b> High Temperature Operating Life Extrinsic	JESD22-A108 Tj = 150°C VCCMAX ≤ V ≤ 1.2*VCCMAX	48 hours or 168 hours	59	13806	0
# 5b	<b>HTOL IFR</b> High Temperature Operating Life Intrinsic	JESD22-A108 Tj = 150°C VCCMAX ≤ V ≤ 1.2*VCCMAX	≥500 hours	38	3294	0
# 7	<b>TC</b> Temperature Cycling	JESD22-A104 -65 °C to 150°C	≥500 cycles	139	6094	0
# 9	<b>uHAST / HAST</b> unbiased or biased High Accelerated Stress Test	JESD22-A101 Tamb = 130 °C, RH = 85%, V = VCCMAX	96 hours	149	6348	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)
AXP	VSSOP	3294	0	67	1.2	8.93 E+08