## nexperia

## **Reliability Monitoring Results**

## Quarters: Q1/2022 to Q4/2022

Based on structural similarity

Suppli	er	User Part Number							
Nexperi	a B.V.	XC7SH32GV	XC7SH32GV						
Part D	escription: Single 2-input (	OR gate							
Pro	nction Family: XC7 cess family: Super micron kage family: TSOP					#			
JESD4	7 Test	Test Conditions	Duration	# Lots	# Quantity	# Rejects			
	TEST				<b>C</b> <sup>1</sup>	-			
# 1	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	156	12481	0			
# 5a	HTOL EFR High Temperature Operating Life Extrinsic	JESD22-A108 Tj = 150°C V <sub>CCMAX</sub> $\leq$ V $\leq$ 1.2*V <sub>CCMAX</sub>	48 hours or 168 hours	136	39090	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	5695	0			
# 7	TC Temperature Cycling	JESD22-A104 -65 °C to 150°C	≥500 cycles	73	5846	0			
# 9	uHAST / HAST unbiased or biased High Accelerated Stress Test	JESD22-A101 Tamb = 130 °C, RH = 85%, V = V <sub>CCMAX</sub>	96 hours	83	6635	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)
XC7	TSOP	5695	0	24	0.6	1.74 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.