## nexperia

## **Reliability Monitoring Results**

## Quarters: Q1/2021 to Q4/2021

Based on structural similarity

Supplier		User Part Number							
Nexperia B.V. Part Description: Dual inverter/line d			74AUP2G240DC						
Part L	Description: Dual Inverter/II	ne uriver (3-state)							
	nction Family: AUP								
	ocess family: C075								
Pa	ckage family: VSSOP								
					<i>"</i> • • • • •	#			
JESD4	17 Test	Test Conditions	Duration	# Lots	# Quantity	Rejects			
# 1	<b>TEST</b> Pre- and Post-Stress	Tamb = 25 °C	N/A	see below	all parts	see			
<i></i> <b>±</b>	Electrical Test		,,,,			below			
# 2	PC	JESD22-A113	N/A	256	11144	0			
" 2	Preconditioning	MSL 1		250	11111	0			
	HTOL EFR	JESD22-A108	48 hours						
# 5a	High Temperature	Tj = 150°C	or	219	38230	0			
	Operating Life Extrinsic	$V_{CCMAX} \le V \le 1.2^* V_{CCMAX}$	168 hours						
	HTOL IFR	JESD22-A108							
# 5b	High Temperature	Tj = 150°C	≥500 hours	84	6277	0			
	Operating Life Intrinsic	$V_{CCMAX} \le V \le 1.2^* V_{CCMAX}$							
# 7	тс	JESD22-A104	≥500 cycles	129	5396	0			
	Temperature Cycling	-65 °C to 150°C				-			
# 0	uHAST / HAST	JESD22-A101		1.40	5740	0			
# 9	unbiased or biased High	Tamb = 130 °C,	96 hours	140	5748	0			
	Accelerated Stress Test	$RH = 85\%, V = V_{CCMAX}$							

## **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	VSSOP	6277	0	24	0.7	1.5 E+09

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