## nexperia

## **Reliability Monitoring Results**

## Quarters: Q1/2021 to Q4/2021

Based on structural similarity

Suppli		User Part Number						
Nexperia B.V.		74HC2G34GW-Q100	74HC2G34GW-Q100					
Part D	Description: Dual buffer							
Fur	nction Family: HC(T)							
	ocess family: Super micron							
Pac	ckage family: TSSOP							
						#		
JESD4	7 Test	Test Conditions	Duration	# Lots	# Quantity	# Rejects		
	TEST		2 41 4 6 6 7			-		
# 1	Pre- and Post-Stress	Tamb = 25 °C	N/A	see below	all parts	see below		
	Electrical Test					DEIOW		
# 2	PC	JESD22-A113	N/A	863	73980	0		
	Preconditioning	MSL 1			,	•		
	HTOL EFR	JESD22-A108	48 hours	100	22.47.4			
# 5a	High Temperature	$Tj = 150^{\circ}C$	or	128	38474	0		
	Operating Life Extrinsic	$V_{CCMAX} \leq V \leq 1.2^* V_{CCMAX}$	168 hours					
# Eb	HTOL IFR	JESD22-A108	≥500 hours	76	5079	0		
# 5b	High Temperature Operating Life Intrinsic	$Tj = 150^{\circ}C$ $V_{CCMAX} \le V \le 1.2^*V_{CCMAX}$	≥500 nours	70	5079	0		
	TC	JESD22-A104						
# 7	Temperature Cycling	-65 °C to 150°C	≥500 cycles	478	37734	0		
	uHAST / HAST	JESD22-A101						
# 9	unbiased or biased High	Tamb = 130 °C,	96 hours	462	36246	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)
HC(T)	TSSOP	5079	0	24	0.7	1.57 E+09

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