

**RELIABILITY MONITOR REPORT
FOR**

QFN Package

Dallas Semiconductor

**4401 South Beltwood Parkway
Dallas, TX 75244-3292**

**This Report was prepared by
Dallas Semiconductor Reliability Engineering**

Summary:

The data in the tables that follow was generated as the result of an on-going Package Reliability Monitor. The assemblies covered by this package monitor are:

ASSY SITE	PINS	PACKAGE		
ATK (Amkor, K)	68	QFN	ATK (Amkor, K)	68 QFN (Pb-Free)
CIRTEK	2	SFN (Pb-Free)	Unisem	10 TDFN (Pb-Free)
Unisem	8	TDFN (Pb-Free)	UTL (NSEB) UTAC	2 SFN (Pb-Free)
UTL (NSEB) UTAC	10	TDFN	UTL (NSEB) UTAC	6 TDFN
UTL (NSEB) UTAC	10	TDFN (Pb-Free)	UTL (NSEB) UTAC	14 TDFN (Pb-Free)
UTL (NSEB) UTAC	28	TDFN (Pb-Free)	UTL (NSEB) UTAC	6 TDFN (Pb-Free)
UTL (NSEB) UTAC	8	TDFN (Pb-Free)	UTL (NSEB) UTAC	12 TQFN
UTL (NSEB) UTAC	28	TQFN	UTL (NSEB) UTAC	56 TQFN
UTL (NSEB) UTAC	12	TQFN (Pb-Free)	UTL (NSEB) UTAC	16 TQFN (Pb-Free)
UTL (NSEB) UTAC	28	TQFN (Pb-Free)	UTL (NSEB) UTAC	32 TQFN (Pb-Free)
UTL (NSEB) UTAC	36	TQFN (Pb-Free)	UTL (NSEB) UTAC	38 TQFN (Pb-Free)
UTL (NSEB) UTAC	48	TQFN (Pb-Free)	UTL (NSEB) UTAC	56 TQFN (Pb-Free)
UTL (NSEB) UTAC	48	TQFN (Pb-Free) Au Metal	UTL (NSEB) UTAC	28 TQFN Exposed Pad (Pb-Free)
UTL (NSEB) UTAC	48	TQFN Exposed Pad (Pb-Free)	UTL (NSEB) UTAC	68 TQFN Exposed Pad (Pb-Free)

The calculated failure rate for this assembly is:

FAILURE RATE: MTTF (YRS): 25926 FITS: 4.4

The parameters used to calculate this failure rate are as follows:

Cf: 60% Ea: 0.7 B: 0 Tu: 25 °C Vu: 5.5 Volts

The reliability data follows. At the start of this data is a description of the assembly vehicle used to generate this reliability data. The next section is the detailed reliability data for each stress. The reliability data section includes the latest data available. This report covers data between 1/1/2006 and 12/31/2006.

Assembly Information:

Package Type: TDFN 2x3x0.8
 Flammability: UL 94-V0
 Moisture Sensitivity Level 1
 (JEDEC J-STD20A)
 Date Code Range: 0551 to 0551

PACKAGE TESTS

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
SOLDERABILITY (Sn/Pb)	0551	DS2703	JESD22-B102, COND C		10	0	
SOLDERABILITY (Pb-Free)			JESD22-B102, COND C		10	0	
Total:						0	

Assembly Information:

Package Type: TDFN 3x3x0.8
 Flammability: UL 94-V0
 Moisture Sensitivity Level 1
 (JEDEC J-STD20A)
 Date Code Range: 0603 to 0623

OPERATING LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HIGH TEMP OP LIFE	0603	DS4404	125C, 5.5 VOLTS	192 HRS	45	0	
HIGH TEMP OP LIFE	0617	DS4420	125C, 5.5 VOLTS	1000 HRS	45	0	
HIGH TEMP OP LIFE	0618	DS2746	125C, 5.5 VOLTS	1000 HRS	45	0	
HIGH TEMP OP LIFE	0623	DS4404	125C, 5.5 VOLTS	1000 HRS	45	0	
Total:						0	

STORAGE LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
STORAGE LIFE	0618	DS2746	150C	1000 HRS	77	0	
Total:						0	

Assembly Information:

Package Type: TQFN (Pb-Free) 4x4x0.8
Flammability: UL 94-V0
Moisture Sensitivity (JEDEC J-STD20A) Level 1
Date Code Range: 0620 to 0620

OPERATING LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HIGH TEMP OP LIFE	0620	DS28CZ04	125C, 5.25 VOLTS	1000 HRS	77	0	
Total:						0	

FAILURE RATE: MTTF (YRS): 25926 FITS: 4.4