

RELIABILITY MONITOR REPORT
FOR

TSSOP Package

Dallas Semiconductor

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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)	14	TSSOP	ATK (Amkor, K)	16 TSSOP
ATK (Amkor, K)	20	TSSOP	ATP (Amkor, PI)	14 TSSOP
ATP (Amkor, PI)	16	TSSOP	ATP (Amkor, PI)	20 TSSOP
ATP (Amkor, PI)	24	TSSOP	ATP (Amkor, PI)	28 TSSOP
ATP (Amkor, PI)	8	TSSOP	ATP (Amkor, PI)	16 TSSOP & Bump Resistor
ATP (Amkor, PI)	8	TSSOP & Bump Resistor	ATP (Amkor, PI)	8 TSSOP & Bump Resistor (Pb-Free)
ATP (Amkor, PI)	14	TSSOP (Pb-Free)	ATP (Amkor, PI)	16 TSSOP (Pb-Free)
ATP (Amkor, PI)	20	TSSOP (Pb-Free)	ATP (Amkor, PI)	8 TSSOP (Pb-Free)
Carsem	14	TSSOP	Carsem	16 TSSOP
Carsem	20	TSSOP	Carsem	24 TSSOP
Carsem	28	TSSOP	Carsem	8 TSSOP
Carsem	14	TSSOP & Bump Resistor	Carsem	16 TSSOP & Bump Resistor
Carsem	20	TSSOP & Bump Resistor	Carsem	8 TSSOP & Bump Resistor
Carsem	16	TSSOP & Bump Resistor (Pb-Free)	Carsem	14 TSSOP (Pb-Free)
Carsem	16	TSSOP (Pb-Free)	Carsem	20 TSSOP (Pb-Free)
Carsem	24	TSSOP (Pb-Free)	Carsem	28 TSSOP (Pb-Free)
OSEP	14	TSSOP	OSEP	16 TSSOP
OSEP	20	TSSOP	OSEP	24 TSSOP
OSEP	28	TSSOP	OSEP	14 TSSOP (Pb-Free)
OSEP	16	TSSOP (Pb-Free)	OSEP	20 TSSOP (Pb-Free)
OSEP	24	TSSOP (Pb-Free)	OSEP	28 TSSOP (Pb-Free)
UTL (NSEB) UTAC	14	TSSOP	UTL (NSEB) UTAC	16 TSSOP
UTL (NSEB) UTAC	20	TSSOP	UTL (NSEB) UTAC	16 TSSOP & Bump Resistor
UTL (NSEB) UTAC	16	TSSOP & Bump Resistor (Pb-Free)	UTL (NSEB) UTAC	14 TSSOP (Pb-Free)
UTL (NSEB) UTAC	16	TSSOP (Pb-Free)	UTL (NSEB) UTAC	20 TSSOP (Pb-Free)
UTL (NSEB) UTAC	24	TSSOP (Pb-Free)	UTL (NSEB) UTAC	28 TSSOP (Pb-Free)

The calculated failure rate for this assembly is:

FAILURE RATE: MTTF (YRS): 17786 FITS: 6.4

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. A 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 7/1/2005 and 6/30/2006 .

Assembly Information:

Package Type: TSSOP 4.4x0.9
 Flammability: UL 94-V0
 Moisture Sensitivity Level 1
 (JEDEC J-STD20A)
 Date Code Range: 0506 to 0601

OPERATING LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HIGH VOLTAGE LIFE	0506	DS1267	125C, 5.5 V, -4.0V	1000 HRS	80	0	
HIGH TEMP OP LIFE	0509	DS1861	125C, 5.5 VOLTS	1000 HRS	45	2	30042301

HIGH VOLTAGE LIFE	0523	DS1267	125C, 5.5 V, -4.0V	1000 HRS	80	0
HIGH TEMP OP LIFE	0536	DS2781	125C, 5.5 VOLTS	1000 HRS	77	0
HIGH TEMP OP LIFE	0549	DS1855	125C, 5.5 VOLTS	1000 HRS	77	0
HIGH TEMP OP LIFE	0601	DS3908	125C, 5.5 VOLTS	1000 HRS	77	0
Total:						2

PRECONDITIONING LEVEL 1

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
ULTRASOUND	0506	DS1267	J-STD-020		4	0	
STORAGE LIFE	0506	DS1267	125C	24 HRS	241		
MOISTURE SOAK			85 C/85% R.H.	168 HRS	241		
CONVECTION REFLOW			235C +5/-0C	3 PASS	241	0	
PRECONDITION U/S	0506	DS1267	J-STD-020		4	0	
ULTRASOUND	0523	DS1267	J-STD-020		4	0	
STORAGE LIFE	0523	DS1267	125C	24 HRS	241		
MOISTURE SOAK			85 C/85% R.H.	168 HRS	241		
CONVECTION REFLOW			235C +5/-0C	3 PASS	241	0	
PRECONDITION U/S	0523	DS1267	J-STD-020		4	0	
Total:						0	

TEMPERATURE CYCLE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
TEMP CYCLE	0506	DS1267	-55C TO 125C	1000 CYS	40	0	
TEMP CYCLE	0523	DS1267	-55C TO 125C	1000 CYS	40	0	
Total:						0	

TEMPERATURE HUMIDITY BIAS

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
BIASED MOISTURE	0506	DS1267	85/85, 5.5 VOLTS	1000 HRS	77	0	
BIASED MOISTURE	0523	DS1267	85/85, 5.5 VOLTS	1000 HRS	77	0	
Total:						0	

UNBIASED MOISTURE RESISTANCE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
AUTOCLAVE	0506	DS1267	121C, 2 ATM STEAM, UNBIASED	168 HRS	40	0	
AUTOCLAVE	0523	DS1267	121C, 2 ATM STEAM, UNBIASED	168 HRS	40	0	
Total:						0	

Assembly Information:

Package Type: TSSOP (Pb-Free) 4.4x0.9
 Flammability: UL 94-V0
 Moisture Sensitivity (JEDEC J-STD20A) Level 1
 Date Code Range: 0612 to 0612

OPERATING LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HIGH TEMP OP LIFE	0612	DS3901A	125C, 5.5 VOLTS	1000 HRS	77	0	
				Total:		0	

FAILURE RATE:**MTTF (YRS): 17786****FITS: 6.4**