

RELIABILITY MONITOR REPORT
FOR

PDIP 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		
ATEC	24	PDIP	ATEC	28 PDIP
ATEC	40	PDIP	ATK (Amkor, K)	17 PDIP
ATP (Amkor, PI)	14	PDIP	ATP (Amkor, PI)	16 PDIP
ATP (Amkor, PI)	18	PDIP	ATP (Amkor, PI)	20 PDIP
ATP (Amkor, PI)	24	PDIP	ATP (Amkor, PI)	28 PDIP
ATP (Amkor, PI)	40	PDIP	ATP (Amkor, PI)	8 PDIP
Carsem	14	PDIP	Carsem	16 PDIP
Carsem	24	PDIP	NSEB	8 PDIP
OSEP	14	PDIP	OSEP	16 PDIP
OSEP	8	PDIP		

The calculated failure rate for this assembly is:

FAILURE RATE: **MTTF (YRS): 54287** **FITS: 2.1**

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 7/1/03 and 6/30/04 .

Assembly Information:

Package Type: PDIP 300 mil
 Flammability: UL 94-V0
 Moisture Sensitivity
 (JEDEC J-STD20A)
 Date Code Range: 0327 to 0345

OPERATING LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HIGH TEMP OP LIFE	0327	DS1005	125C, 5.5 VOLTS	1000 HRS	77	0	
HIGH TEMP OP LIFE	0328	DS1005	125C, 5.5 VOLTS	1000 HRS	77	0	
HIGH TEMP OP LIFE	0328	DS275	125C, 5.5 VOLTS	1000 HRS	77	0	
HIGH TEMP OP LIFE	0345	DS2432	125C, 5.25 VOLTS	1000 HRS	77	0	
					Total:	0	

PACKAGE TESTS

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
SOLDERABILITY	0327	DS1005	JESD22-B102		3	0	
X-RAY	0327	DS1005	MIL-STD-883-2012 : TOP & SIDE VIEW		6	0	
PHYSICAL DIMENSIONS			JESD22-B100		6	0	
MARK PERMANENCY			JESD22-B107		6	0	
LEAD INTEGRITY			JESD22-B105 TEST CONDITION B		6	0	
SOLDERABILITY	0328	DS1005	JESD22-B102		3	0	

X-RAY	0328	DS1005	MIL-STD-883-2012 : TOP & SIDE VIEW	6	0
PHYSICAL DIMENSIONS			JESD22-B100	6	0
MARK PERMANENCY			JESD22-B107	6	0
LEAD INTEGRITY			JESD22-B105 TEST CONDITION B	6	0
SOLDERABILITY	0328	DS275	JESD22-B102	3	0
X-RAY	0328	DS275	MIL-STD-883-2012 : TOP & SIDE VIEW	6	0
PHYSICAL DIMENSIONS			JESD22-B100	6	0
MARK PERMANENCY			JESD22-B107	6	0
LEAD INTEGRITY			JESD22-B105 TEST CONDITION B	6	0
Total:				0	0

STORAGE LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
STORAGE LIFE	0327	DS1005	150C	1000 HRS	77	0	
STORAGE LIFE	0328	DS1005	150C	1000 HRS	77	0	
STORAGE LIFE	0328	DS275	150C	1000 HRS	77	0	
Total:						0	0

TEMPERATURE CYCLE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
TEMP CYCLE	0327	DS1005	-55C TO 125C	1000 CYS	77	0	
TEMP CYCLE	0328	DS1005	-55C TO 125C	1000 CYS	77	0	
TEMP CYCLE	0328	DS275	-55C TO 125C	1000 CYS	77	0	
Total:						0	0

TEMPERATURE HUMIDITY BIAS

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HAST	0327	DS1005	130C, 85%R.H.,5.5V	96 HRS	77	0	
HAST	0328	DS1005	130C, 85%R.H.,5.5V	96 HRS	77	0	
HAST	0328	DS275	130C, 85%R.H.,5.5V	96 HRS	77	0	
Total:						0	0

UNBIASED MOISTURE RESISTANCE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
AUTOCLAVE	0327	DS1005	121C, 2 ATM STEAM, UNBIASED	168 HRS	77	0	
AUTOCLAVE	0328	DS1005	121C, 2 ATM STEAM, UNBIASED	168 HRS	77	0	
AUTOCLAVE	0328	DS275	121C, 2 ATM STEAM, UNBIASED	168 HRS	77	0	
Total:						0	0

Assembly Information:

Package Type: PDIP 600 mil
 Flammability: UL 94-V0
 Moisture Sensitivity (JEDEC J-STD20A)
 Date Code Range: 0323 to 0327

OPERATING LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HIGH TEMP OP LIFE	0323	DS80C320	125C, 5.5 VOLTS	1000 HRS	77	0	
HIGH TEMP OP LIFE	0327	DS7864B	125C, 5.5 VOLTS	1000 HRS	77	0	
Total:						0	

TEMPERATURE CYCLE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
TEMP CYCLE	0323	DS80C320	-55C TO 125C	1000 CYS	45	0	
Total:						0	

TEMPERATURE HUMIDITY BIAS

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
BIASED MOISTURE	0323	DS80C320	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	0323	DS80C320	121C, 2 ATM STEAM, UNBIASED	96 HRS	45	0	
Total:						0	

FAILURE RATE:**MTTF (YRS): 54287****FITS: 2.1**