

RELIABILITY MONITOR REPORT
FOR

SOIC 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)	14	SOIC	ATK (Amkor, K)	16 SOIC
ATK (Amkor, K)	20	SOIC	ATK (Amkor, K)	24 SOIC
ATK (Amkor, K)	28	SOIC	ATK (Amkor, K)	8 SOIC
ATP (Amkor, PI)	14	SOIC	ATP (Amkor, PI)	16 SOIC
ATP (Amkor, PI)	20	SOIC	ATP (Amkor, PI)	24 SOIC
ATP (Amkor, PI)	28	SOIC	ATP (Amkor, PI)	8 SOIC
ATP (Amkor, PI)	16	SOIC (Pb-Free)	ATP (Amkor, PI)	20 SOIC (Pb-Free)
ATP (Amkor, PI)	24	SOIC (Pb-Free)	ATP (Amkor, PI)	28 SOIC (Pb-Free)
ATP (Amkor, PI)	8	SOIC (Pb-Free)	ATP (Amkor, PI)	16 SOIC w/CRYSTAL
Carsem	14	SOIC	Carsem	16 SOIC
Carsem	20	SOIC	Carsem	24 SOIC
Carsem	28	SOIC	Carsem	8 SOIC
Carsem	14	SOIC (Pb-Free)	Carsem	16 SOIC (Pb-Free)
Carsem	20	SOIC (Pb-Free)	Carsem	24 SOIC (Pb-Free)
Carsem	28	SOIC (Pb-Free)	Carsem	8 SOIC (Pb-Free)
Hana	8	SOIC	Hana	8 SOIC (Pb-Free)
NSEB	8	SOIC	NSEB	14 SOIC (Pb-Free)
NSEB	16	SOIC (Pb-Free)	NSEB	8 SOIC (Pb-Free)
OSEP	14	SOIC	OSEP	16 SOIC
OSEP	20	SOIC	OSEP	24 SOIC
OSEP	28	SOIC	OSEP	8 SOIC
OSEP	14	SOIC (Pb-Free)	OSEP	16 SOIC (Pb-Free)
OSEP	20	SOIC (Pb-Free)	OSEP	24 SOIC (Pb-Free)
OSEP	28	SOIC (Pb-Free)	OSEP	8 SOIC (Pb-Free)

The calculated failure rate for this assembly is:

FAILURE RATE: MTTF (YRS): 289343 FITS: 0.4

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 7/1/04 and 6/30/05 .

Assembly Information:

Package Type: SOIC 150 mil
 Flammability: UL 94-V0
 Moisture Sensitivity Level 1
 (JEDEC J-STD20A)
 Date Code Range: 0426 to 0512

OPERATING LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HIGH TEMP OP LIFE	0426	DS1310	125C, 3.6 VOLTS	1000 HRS	77	0	
HIGH TEMP OP LIFE	0428	DS2482-1	125C, 5.5 VOLTS	1000 HRS	45	0	
HIGH TEMP OP LIFE	0429	DS1232	125C, 5.5 VOLTS	1000 HRS	77	0	

HIGH TEMP OP LIFE	0432	DS2804	125C, 5.25 VOLTS	1000 HRS	77	0
HIGH TEMP OP LIFE	0435	DS620	125C, 3.5 VOLTS	1000 HRS	77	0
HIGH TEMP OP LIFE	0437	DS1232	125C, 5.5 VOLTS	1000 HRS	80	0
HIGH TEMP OP LIFE	0437	DS2711	125C, 5.5 VOLTS	1000 HRS	45	0
HIGH TEMP OP LIFE	0441	DS2502	125C, 6.0 VOLTS	1000 HRS	77	0
HIGH TEMP OP LIFE	0442	DS2482-1	125C, 5.5 VOLTS	1000 HRS	45	0
HIGH TEMP OP LIFE	0449	DS1232	125C, 5.5 VOLTS	500 HRS	78	
HIGH TEMP OP LIFE	0451	DS2431	125C, 5.25 VOLTS	1000 HRS	77	0
HIGH TEMP OP LIFE	0504	DS2413	125C, 5.25 VOLTS	1000 HRS	45	0
HIGH TEMP OP LIFE	0505	DS1629	125C, 5.5 VOLTS	1000 HRS	77	0
HIGH TEMP OP LIFE	0507	DS1086H	125C, 5.25 VOLTS	408 HRS	77	0
HIGH TEMP OP LIFE	0507	DS2715	125C, 5.5 V (PSA) & 17.0 V (PSB)	1000 HRS	45	0
HIGH TEMP OP LIFE	0512	DS2431	125C, 5.25 VOLTS	1000 HRS	77	0
Total:						0

PACKAGE TESTS

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
SOLDERABILITY (Sn/Pb)	0505	DS1672	JESD22-B102, COND C		15	0	
Total:						0	

PRECONDITIONING LEVEL 1

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
ULTRASOUND	0449	DS1232	J-STD-020		241	0	
STORAGE LIFE	0449	DS1232	125C	24 HRS	241		
MOISTURE SOAK			85 C/85% R.H.	168 HRS	241		
CONVECTION REFLOW			235C +/-0C	3 PASS	239	0	
PRECONDITION U/S	0449	DS1232	J-STD-020		4	0	
Total:						0	

STORAGE LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
STORAGE LIFE	0507	DS2715	150C	1000 HRS	77	0	
Total:						0	

TEMPERATURE CYCLE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
TEMP CYCLE	0429	DS1232	-55C TO 125C	1000 CYS	77	0	
TEMP CYCLE	0437	DS1232	-55C TO 125C	1000 CYS	40	0	
TEMP CYCLE	0449	DS1232	-55C TO 125C	500 CYS	40		
TEMP CYCLE	0451	DS2431	-55C TO 125C	1000 CYS	77	0	
TEMP CYCLE	0512	DS2431	-55C TO 125C	1000 CYS	77	0	
Total:						0	

TEMPERATURE HUMIDITY BIAS

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HAST	0429	DS1232	130C, 85%R.H.,5.5V	96 HRS	77	0	
HAST	0437	DS1232	130C, 85%R.H.,5.5V	96 HRS	77	0	
HAST	0449	DS1232	130C, 85%R.H.,5.5V	96 HRS	77	0	
HAST	0451	DS2431	130C, 85%R.H.,5.5V	96 HRS	77	0	
HAST	0512	DS2431	130C, 85%R.H.,5.5V	96 HRS	77	0	
Total:						0	

UNBIASED MOISTURE RESISTANCE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
AUTOCLAVE	0429	DS1232	121C, 2 ATM STEAM, UNBIASED	168 HRS	77	0	
AUTOCLAVE	0437	DS1232	121C, 2 ATM STEAM, UNBIASED	96 HRS	40	0	
AUTOCLAVE	0449	DS1232	121C, 2 ATM STEAM, UNBIASED	96 HRS	40	0	
AUTOCLAVE	0451	DS2431	121C, 2 ATM STEAM, UNBIASED	168 HRS	77	0	
AUTOCLAVE	0512	DS2431	121C, 2 ATM STEAM, UNBIASED	168 HRS	77	0	
Total:						0	

Assembly Information:

Package Type: SOIC 208 mil
Flammability: UL 94-V0
Moisture Sensitivity (JEDEC J-STD20A) Level 1
Date Code Range: 0430 to 0430

OPERATING LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HIGH TEMP OP LIFE	0430	DS1624	125C, 5.5 VOLTS	1000 HRS	77	0	
Total:						0	

PRECONDITIONING LEVEL 1

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
STORAGE LIFE	0430	DS1624	125C	24 HRS	385		
MOISTURE SOAK			85 C/85% R.H.	168 HRS	385		
CONVECTION REFLOW			235C +5/-0C	3 PASS	385	1	30027057
Total:						1	

STORAGE LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
STORAGE LIFE	0430	DS1624	150C	1000 HRS	77	0	
Total:						0	

TEMPERATURE CYCLE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
TEMP CYCLE	0430	DS1624	-55C TO 125C	1000 CYS	77	0	

Total: 0

TEMPERATURE HUMIDITY BIAS

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HAST	0430	DS1624	130C, 85%R.H.,5.5V	96	HRS	76	0
						Total:	0

UNBIASED MOISTURE RESISTANCE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
AUTOCLAVE	0430	DS1624	121C, 2 ATM STEAM, UNBIASED	168	HRS	77	0
						Total:	0

Assembly Information:

Package Type: SOIC 300 mil
Flammability: UL 94-V0
Moisture Sensitivity (JEDEC J-STD20A) Level 1
Date Code Range: 0427 to 0427

OPERATING LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HIGH TEMP OP LIFE	0427	DS2422	125C, 5.5V (PSA) & 3.0V (PSB)	1000	HRS	77	0
						Total:	0

Assembly Information:

Package Type: SOIC (Pb-Free) 150 mil
Flammability: UL 94-V0
Moisture Sensitivity (JEDEC J-STD20A) Level 1
Date Code Range: 0502 to 0508

MOISTURE SENSITIVITY LEVEL 1

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
EXTERNAL VISUAL	0502	DS1803	J-STD-020, 6.1a			8	0
ULTRASOUND			J-STD-020			8	0
STORAGE LIFE			125C	48	HRS	8	
MOISTURE SOAK			85 C/85% R.H.	168	HRS	8	
CONVECTION REFLOW			260C +/-5C	3	PASS	8	0
PRECONDITION U/S			J-STD-020			8	0
EXTERNAL VISUAL			J-STD-020, 6.1a			8	0
EXTERNAL VISUAL	0502	DS1803	J-STD-020, 6.1a			8	0
ULTRASOUND			J-STD-020			8	0
STORAGE LIFE			125C	48	HRS	8	
MOISTURE SOAK			85 C/85% R.H.	168	HRS	8	
CONVECTION REFLOW			260C +/-5C	3	PASS	8	0
PRECONDITION U/S			J-STD-020			8	0
EXTERNAL VISUAL			J-STD-020, 6.1a			8	0
EXTERNAL VISUAL	0502	DS1803	J-STD-020, 6.1a			8	0
ULTRASOUND			J-STD-020			8	0
STORAGE LIFE			125C	48	HRS	8	

MOISTURE SOAK	0502	DS1803	85 C/85% R.H.	168	HRS	8	
CONVECTION REFLOW			260C +/-5C	3	PASS	8	0
PRECONDITION U/S			J-STD-020			8	0
EXTERNAL VISUAL			J-STD-020, 6.1a			8	0
EXTERNAL VISUAL	0506	DS1672	J-STD-020, 6.1a			8	0
ULTRASOUND			J-STD-020			8	0
STORAGE LIFE			125C	48	HRS	8	
MOISTURE SOAK			85 C/85% R.H.	168	HRS	8	
CONVECTION REFLOW			260C +/-5C	3	PASS	8	0
PRECONDITION U/S			J-STD-020			8	0
EXTERNAL VISUAL			J-STD-020, 6.1a			8	0
EXTERNAL VISUAL	0507	DS1672	J-STD-020, 6.1a			8	0
ULTRASOUND			J-STD-020			8	0
STORAGE LIFE			125C	48	HRS	8	
MOISTURE SOAK			85 C/85% R.H.	168	HRS	8	
CONVECTION REFLOW			260C +/-5C	3	PASS	8	0
PRECONDITION U/S			J-STD-020			8	0
EXTERNAL VISUAL			J-STD-020, 6.1a			8	0
EXTERNAL VISUAL	0508	DS1672	J-STD-020, 6.1a			8	0
ULTRASOUND			J-STD-020			8	0
STORAGE LIFE			125C	48	HRS	8	
MOISTURE SOAK			85 C/85% R.H.	168	HRS	8	
CONVECTION REFLOW			260C +/-5C	3	PASS	8	0
PRECONDITION U/S			J-STD-020			8	0
EXTERNAL VISUAL			J-STD-020, 6.1a			8	0
Total:						0	0

OPERATING LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HIGH TEMP OP LIFE	0502	DS1803	125C, 5.25 VOLTS	1000	HRS	45	0
VISUAL INSPECTION			WHISKERS < 50uM			3	0
HIGH TEMP OP LIFE	0502	DS1803	125C, 5.25 VOLTS	1000	HRS	45	0
VISUAL INSPECTION			WHISKERS < 50uM			3	0
HIGH TEMP OP LIFE	0502	DS1803	125C, 5.25 VOLTS	1000	HRS	45	0
VISUAL INSPECTION			WHISKERS < 50uM			3	0
HIGH TEMP OP LIFE	0506	DS1672	125C, 3.3 VOLTS	1000	HRS	45	0
VISUAL INSPECTION			WHISKERS < 50uM			3	0
HIGH TEMP OP LIFE	0507	DS1672	125C, 3.3 VOLTS	1000	HRS	45	0
VISUAL INSPECTION			WHISKERS < 50uM			3	0
HIGH TEMP OP LIFE	0508	DS1672	125C, 3.3 VOLTS	1000	HRS	45	0
VISUAL INSPECTION			WHISKERS < 50uM			3	0
Total:						0	0

PACKAGE TESTS

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
SOLDERABILITY (Sn/Pb)	0502	DS1803	JESD22-B102, COND C			3	0
X-RAY	0502	DS1803	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, COND B			6	0

SOLDERABILITY (Sn/Pb)	0502	DS1803	JESD22-B102, COND C	3	0
SOLDERABILITY (Pb-Free)			JESD22-B102, COND C	3	0
X-RAY	0502	DS1803	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, COND B	6	0
SOLDERABILITY (Sn/Pb)	0502	DS1803	JESD22-B102, COND C	3	0
SOLDERABILITY (Pb-Free)			JESD22-B102, COND C	3	0
X-RAY	0502	DS1803	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, COND B	6	0
SOLDERABILITY (Sn/Pb)	0506	DS1672	JESD22-B102, COND C	3	0
SOLDERABILITY (Pb-Free)			JESD22-B102, COND C	3	0
X-RAY	0506	DS1672	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, COND B	6	0
SOLDERABILITY (Sn/Pb)	0507	DS1672	JESD22-B102, COND C	3	0
SOLDERABILITY (Pb-Free)			JESD22-B102, COND C	3	0
X-RAY	0507	DS1672	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, COND B	6	0
SOLDERABILITY (Sn/Pb)	0508	DS1672	JESD22-B102, COND C	3	0
SOLDERABILITY (Pb-Free)			JESD22-B102, COND C	3	0
X-RAY	0508	DS1672	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, COND B	6	0
				Total:	0

PRECONDITIONING LEVEL 1

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
STORAGE LIFE	0502	DS1803	125C	48 HRS	353		
MOISTURE SOAK			85 C/85% R.H.	168 HRS	353		
CONVECTION REFLOW			260C +0/-5C	3 PASS	353	0	
STORAGE LIFE	0502	DS1803	125C	48 HRS	353		
MOISTURE SOAK			85 C/85% R.H.	168 HRS	353		
CONVECTION REFLOW			260C +0/-5C	3 PASS	353	0	
STORAGE LIFE	0502	DS1803	125C	48 HRS	353		
MOISTURE SOAK			85 C/85% R.H.	168 HRS	353		
CONVECTION REFLOW			260C +0/-5C	3 PASS	353	0	
STORAGE LIFE	0506	DS1672	125C	48 HRS	353		
MOISTURE SOAK			85 C/85% R.H.	168 HRS	353		

CONVECTION REFLOW	0506	DS1672	260C +/-5C	3	PASS	353	0
STORAGE LIFE	0507	DS1672	125C	48	HRS	353	
MOISTURE SOAK			85 C/85% R.H.	168	HRS	353	
CONVECTION REFLOW			260C +/-5C	3	PASS	353	0
STORAGE LIFE	0508	DS1672	125C	48	HRS	353	
MOISTURE SOAK			85 C/85% R.H.	168	HRS	353	
CONVECTION REFLOW			260C +/-5C	3	PASS	353	0
Total:							0

STORAGE LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
STORAGE LIFE	0502	DS1803	150C	1000 HRS	77	0	
VISUAL INSPECTION			WHISKERS < 50uM		3	0	
STORAGE LIFE	0502	DS1803	150C	1000 HRS	77	0	
VISUAL INSPECTION			WHISKERS < 50uM		3	0	
STORAGE LIFE	0502	DS1803	150C	1000 HRS	77	0	
VISUAL INSPECTION			WHISKERS < 50uM		3	0	
STORAGE LIFE	0506	DS1672	150C	1000 HRS	77	0	
VISUAL INSPECTION			WHISKERS < 50uM		3	0	
STORAGE LIFE	0507	DS1672	150C	1000 HRS	77	0	
VISUAL INSPECTION			WHISKERS < 50uM		3	0	
STORAGE LIFE	0508	DS1672	150C	1000 HRS	75	0	
VISUAL INSPECTION			WHISKERS < 50uM		3	0	
Total:							0

TEMPERATURE CYCLE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
TEMP CYCLE	0502	DS1803	-55C TO 125C	1000 CYS	77	0	
VISUAL INSPECTION			WHISKERS < 50uM		3	0	
TEMP CYCLE	0502	DS1803	-55C TO 125C	1000 CYS	77	0	
TEMP CYCLE	0502	DS1803	-55C TO 125C	1000 CYS	77	0	
VISUAL INSPECTION			WHISKERS < 50uM		3	0	
TEMP CYCLE	0506	DS1672	-55C TO 125C	1000 CYS	77	0	
VISUAL INSPECTION			WHISKERS < 50uM		3	0	
TEMP CYCLE	0507	DS1672	-55C TO 125C	1000 CYS	77	0	
VISUAL INSPECTION			WHISKERS < 50uM		3	0	
TEMP CYCLE	0508	DS1672	-55C TO 125C	1000 CYS	76	0	
VISUAL INSPECTION			WHISKERS < 50uM		3	0	
Total:							0

TEMPERATURE HUMIDITY BIAS

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
BIASED MOISTURE	0502	DS1803	85/85, 5.5 VOLTS	1000 HRS	77	0	
VISUAL INSPECTION			WHISKERS < 50uM		3	0	
BIASED MOISTURE	0502	DS1803	85/85, 5.5 VOLTS	1000 HRS	77	0	
VISUAL INSPECTION			WHISKERS < 50uM		3	0	

BIASED MOISTURE VISUAL INSPECTION	0502	DS1803	85/85, 5.5 VOLTS WHISKERS < 50uM	1000	HRS	77	0
HAST VISUAL INSPECTION	0506	DS1672	130C, 85%R.H.,3.5V WHISKERS < 50uM	96	HRS	77	0
HAST VISUAL INSPECTION	0507	DS1672	130C, 85%R.H.,3.5V WHISKERS < 50uM	96	HRS	77	0
HAST VISUAL INSPECTION	0508	DS1672	130C, 85%R.H.,3.5V WHISKERS < 50uM	96	HRS	77	0
						Total:	0

UNBIASED MOISTURE RESISTANCE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
AUTOCLAVE	0502	DS1803	121C, 2 ATM STEAM, UNBIASED	168	HRS	77	0
AUTOCLAVE	0502	DS1803	121C, 2 ATM STEAM, UNBIASED	168	HRS	77	0
AUTOCLAVE VISUAL INSPECTION	0502	DS1803	121C, 2 ATM STEAM, UNBIASED WHISKERS < 50uM	168	HRS	77	0
AUTOCLAVE VISUAL INSPECTION	0506	DS1672	121C, 2 ATM STEAM, UNBIASED WHISKERS < 50uM	168	HRS	77	0
AUTOCLAVE VISUAL INSPECTION	0507	DS1672	121C, 2 ATM STEAM, UNBIASED WHISKERS < 50uM	168	HRS	77	0
AUTOCLAVE VISUAL INSPECTION	0508	DS1672	121C, 2 ATM STEAM, UNBIASED WHISKERS < 50uM	168	HRS	75	0
						Total:	0

Assembly Information:

Package Type: SOIC (Pb-Free) 208 mil
 Flammability: UL 94-V0
 Moisture Sensitivity (JEDEC J-STD20A) Level 1
 Date Code Range: 0441 to 0511

MOISTURE SENSITIVITY LEVEL 1

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
EXTERNAL VISUAL	0441	DS2433	J-STD-020, 6.1a		8	0	
ULTRASOUND			J-STD-020		8	0	
STORAGE LIFE			125C	48	HRS	8	
MOISTURE SOAK			85 C/85% R.H.	168	HRS	8	
CONVECTION REFLOW			260C +/-5C	3	PASS	8	0
PRECONDITION U/S			J-STD-020		8	0	
EXTERNAL VISUAL			J-STD-020, 6.1a		8	0	
EXTERNAL VISUAL	0442	DS2433	J-STD-020, 6.1a		8	0	
ULTRASOUND			J-STD-020		8	0	
STORAGE LIFE			125C	48	HRS	8	
MOISTURE SOAK			85 C/85% R.H.	168	HRS	8	
CONVECTION REFLOW			260C +/-5C	3	PASS	8	0
PRECONDITION U/S			J-STD-020		8	0	
EXTERNAL VISUAL			J-STD-020, 6.1a		8	0	
EXTERNAL VISUAL	0442	DS2433	J-STD-020, 6.1a		8	0	

ULTRASOUND	0442	DS2433	J-STD-020			8	0
STORAGE LIFE			125C	48	HRS	8	
MOISTURE SOAK			85 C/85% R.H.	168	HRS	8	
CONVECTION REFLOW			260C +/-5C	3	PASS	8	0
PRECONDITION U/S			J-STD-020			8	0
EXTERNAL VISUAL			J-STD-020, 6.1a			8	0
EXTERNAL VISUAL	0443	DS2433	J-STD-020, 6.1a			8	0
ULTRASOUND			J-STD-020			8	0
STORAGE LIFE			125C	48	HRS	8	
MOISTURE SOAK			85 C/85% R.H.	168	HRS	8	
CONVECTION REFLOW			260C +/-5C	3	PASS	8	0
PRECONDITION U/S			J-STD-020			8	0
EXTERNAL VISUAL			J-STD-020, 6.1a			8	0
EXTERNAL VISUAL	0443	DS2433	J-STD-020, 6.1a			8	0
ULTRASOUND			J-STD-020			8	0
STORAGE LIFE			125C	48	HRS	8	
MOISTURE SOAK			85 C/85% R.H.	168	HRS	8	
CONVECTION REFLOW			260C +/-5C	3	PASS	8	0
PRECONDITION U/S			J-STD-020			8	0
EXTERNAL VISUAL			J-STD-020, 6.1a			8	0
EXTERNAL VISUAL	0444	DS2433	J-STD-020, 6.1a			8	0
ULTRASOUND			J-STD-020			8	0
STORAGE LIFE			125C	48	HRS	8	
MOISTURE SOAK			85 C/85% R.H.	168	HRS	8	
CONVECTION REFLOW			260C +/-5C	3	PASS	8	0
PRECONDITION U/S			J-STD-020			8	0
EXTERNAL VISUAL			J-STD-020, 6.1a			8	0
Total:						0	0

OPERATING LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HIGH TEMP OP LIFE	0441	DS2433	125C, 6.0 VOLTS	1000 HRS	45	0	
HIGH TEMP OP LIFE	0442	DS2433	125C, 6.0 VOLTS	1000 HRS	45	0	
HIGH TEMP OP LIFE	0442	DS2433	125C, 6.0 VOLTS	1000 HRS	45	0	
HIGH TEMP OP LIFE	0443	DS2433	125C, 6.0 VOLTS	1000 HRS	45	0	
HIGH TEMP OP LIFE	0443	DS2433	125C, 6.0 VOLTS	1000 HRS	45	0	
HIGH TEMP OP LIFE	0444	DS2433	125C, 6.0 VOLTS	1000 HRS	45	0	
Total:						0	0

PACKAGE TESTS

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
SOLDERABILITY (Sn/Pb)	0441	DS2433	JESD22-B102, COND C		3	0	
SOLDERABILITY (Pb-Free)			JESD22-B102, COND C		3	0	
X-RAY	0441	DS2433	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, COND B		6	0	
SOLDERABILITY (Sn/Pb)	0442	DS2433	JESD22-B102, COND C		3	0	

SOLDERABILITY (Pb-Free)	0442	DS2433	JESD22-B102, COND C	3	0
X-RAY	0442	DS2433	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, COND B	6	0
SOLDERABILITY (Sn/Pb)	0442	DS2433	JESD22-B102, COND C	3	0
SOLDERABILITY (Pb-Free)			JESD22-B102, COND C	3	0
X-RAY	0442	DS2433	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, COND B	6	0
SOLDERABILITY (Sn/Pb)	0443	DS2433	JESD22-B102, COND C	3	0
SOLDERABILITY (Pb-Free)			JESD22-B102, COND C	3	0
X-RAY	0443	DS2433	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, COND B	6	0
SOLDERABILITY (Sn/Pb)	0443	DS2433	JESD22-B102, COND C	3	0
SOLDERABILITY (Pb-Free)			JESD22-B102, COND C	3	0
X-RAY	0443	DS2433	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, COND B	6	0
SOLDERABILITY (Sn/Pb)	0444	DS2433	JESD22-B102, COND C	3	0
SOLDERABILITY (Pb-Free)			JESD22-B102, COND C	3	0
X-RAY	0444	DS2433	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, COND B	6	0
				Total:	0

PRECONDITIONING LEVEL 1

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
STORAGE LIFE	0441	DS2433	125C	48 HRS	355		
MOISTURE SOAK			85 C/85% R.H.	168 HRS	355		
CONVECTION REFLOW			260C +/-5C	3 PASS	355	0	
STORAGE LIFE	0442	DS2433	125C	48 HRS	353		
MOISTURE SOAK			85 C/85% R.H.	168 HRS	353		
CONVECTION REFLOW			260C +/-5C	3 PASS	353	0	
STORAGE LIFE	0442	DS2433	125C	48 HRS	408		
MOISTURE SOAK			85 C/85% R.H.	168 HRS	408		
CONVECTION REFLOW			260C +/-5C	3 PASS	408	0	
STORAGE LIFE	0443	DS2433	125C	48 HRS	353		
MOISTURE SOAK			85 C/85% R.H.	168 HRS	353		
CONVECTION REFLOW			260C +/-5C	3 PASS	353	0	

STORAGE LIFE	0443	DS2433	125C	48	HRS	296		
MOISTURE SOAK			85 C/85% R.H.	168	HRS	296		
CONVECTION REFLOW			260C +0/-5C	3	PASS	296	0	
STORAGE LIFE	0444	DS2433	125C	48	HRS	353		
MOISTURE SOAK			85 C/85% R.H.	168	HRS	353		
CONVECTION REFLOW			260C +0/-5C	3	PASS	353	0	
STORAGE LIFE	0511	DS2433	125C	48	HRS	350		
MOISTURE SOAK			85 C/85% R.H.	168	HRS	350		
CONVECTION REFLOW			260C +0/-5C	3	PASS	350	0	
STORAGE LIFE	0511	DS2433	125C	48	HRS	350		
MOISTURE SOAK			85 C/85% R.H.	168	HRS	350		
CONVECTION REFLOW			260C +0/-5C	3	PASS	350	0	
					Total:		0	

STORAGE LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
STORAGE LIFE	0441	DS2433	150C	1000 HRS	79	0	
STORAGE LIFE	0442	DS2433	150C	1000 HRS	77	0	
STORAGE LIFE	0442	DS2433	150C	1000 HRS	91	0	
STORAGE LIFE	0443	DS2433	150C	1000 HRS	77	0	
STORAGE LIFE	0443	DS2433	150C	1000 HRS	61	0	
STORAGE LIFE	0444	DS2433	150C	1000 HRS	77	0	
					Total:	0	

TEMPERATURE CYCLE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
TEMP CYCLE	0441	DS2433	-55C TO 125C	1000 CYS	77	0	
TEMP CYCLE	0442	DS2433	-55C TO 125C	1000 CYS	77	0	
TEMP CYCLE	0442	DS2433	-55C TO 125C	1000 CYS	89	0	
TEMP CYCLE	0443	DS2433	-55C TO 125C	1000 CYS	77	0	
TEMP CYCLE	0443	DS2433	-55C TO 125C	1000 CYS	65	0	
TEMP CYCLE	0444	DS2433	-55C TO 125C	1000 CYS	77	0	
					Total:	0	

TEMPERATURE HUMIDITY BIAS

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HAST	0441	DS2433	130C, 85%R.H.,5.5V	96 HRS	77	0	
HAST	0442	DS2433	130C, 85%R.H.,5.5V	96 HRS	77	0	
HAST	0442	DS2433	130C, 85%R.H.,5.5V	96 HRS	91	0	
HAST	0443	DS2433	130C, 85%R.H.,5.5V	96 HRS	77	0	
HAST	0443	DS2433	130C, 85%R.H.,5.5V	96 HRS	63	0	
HAST	0444	DS2433	130C, 85%R.H.,5.5V	96 HRS	77	0	
					Total:	0	

UNBIASED MOISTURE RESISTANCE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
AUTOCLAVE	0441	DS2433	121C, 2 ATM STEAM, UNBIASED	168 HRS	77	0	
AUTOCLAVE	0442	DS2433	121C, 2 ATM STEAM, UNBIASED	168 HRS	76	0	
AUTOCLAVE	0442	DS2433	121C, 2 ATM STEAM, UNBIASED	168 HRS	92	0	
AUTOCLAVE	0443	DS2433	121C, 2 ATM STEAM, UNBIASED	168 HRS	75	0	
AUTOCLAVE	0443	DS2433	121C, 2 ATM STEAM, UNBIASED	168 HRS	62	0	
AUTOCLAVE	0444	DS2433	121C, 2 ATM STEAM, UNBIASED	168 HRS	77	0	
Total:						0	

Assembly Information:

Package Type: SOIC (Pb-Free) 300 mil
Flammability: UL 94-V0
Moisture Sensitivity (JEDEC J-STD20A) Level 1
Date Code Range: 0452 to 0511

MOISTURE SENSITIVITY LEVEL 1

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
EXTERNAL VISUAL	0452	DS12885	J-STD-020, 6.1a		8	0	
ULTRASOUND			J-STD-020		8	0	
STORAGE LIFE			125C	48 HRS	8		
MOISTURE SOAK			85 C/85% R.H.	168 HRS	8		
CONVECTION REFLOW			260C +/-5C	3 PASS	8	0	
PRECONDITION U/S			J-STD-020		8	0	
EXTERNAL VISUAL			J-STD-020, 6.1a		8	0	
EXTERNAL VISUAL	0452	DS12885	J-STD-020, 6.1a		8	0	
ULTRASOUND			J-STD-020		8	0	
STORAGE LIFE			125C	48 HRS	8		
MOISTURE SOAK			85 C/85% R.H.	168 HRS	8		
CONVECTION REFLOW			260C +/-5C	3 PASS	8	0	
PRECONDITION U/S			J-STD-020		8	0	
EXTERNAL VISUAL			J-STD-020, 6.1a		8	0	
EXTERNAL VISUAL	0501	DS12885	J-STD-020, 6.1a		8	0	
ULTRASOUND			J-STD-020		8	0	
STORAGE LIFE			125C	48 HRS	8		
MOISTURE SOAK			85 C/85% R.H.	168 HRS	8		
CONVECTION REFLOW			260C +/-5C	3 PASS	8	0	
PRECONDITION U/S			J-STD-020		8	0	
EXTERNAL VISUAL			J-STD-020, 6.1a		8	0	
EXTERNAL VISUAL	0511	DS12885	J-STD-020, 6.1a		8	0	
ULTRASOUND			J-STD-020		8	0	
STORAGE LIFE			125C	48 HRS	8		
MOISTURE SOAK			85 C/85% R.H.	168 HRS	8		
CONVECTION REFLOW			260C +/-5C	3 PASS	8	0	
PRECONDITION U/S			J-STD-020		8	0	
EXTERNAL VISUAL			J-STD-020, 6.1a		8	0	
EXTERNAL VISUAL	0511	DS12885	J-STD-020, 6.1a		8	0	

ULTRASOUND	0511	DS12885	J-STD-020			8	0
STORAGE LIFE			125C	48	HRS	8	
MOISTURE SOAK			85 C/85% R.H.	168	HRS	8	
CONVECTION REFLOW			260C +/-5C	3	PASS	8	0
PRECONDITION U/S			J-STD-020			8	0
EXTERNAL VISUAL			J-STD-020, 6.1a			8	0
EXTERNAL VISUAL	0511	DS12885	J-STD-020, 6.1a			8	0
ULTRASOUND			J-STD-020			8	0
STORAGE LIFE			125C	48	HRS	8	
MOISTURE SOAK			85 C/85% R.H.	168	HRS	8	
CONVECTION REFLOW			260C +/-5C	3	PASS	8	0
PRECONDITION U/S			J-STD-020			8	0
EXTERNAL VISUAL			J-STD-020, 6.1a			8	0
Total:						0	0

OPERATING LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HIGH TEMP OP LIFE	0452	DS12885	125C, 5.0 VOLTS	1000	HRS	45	0
VISUAL INSPECTION			WHISKERS < 50uM			3	0
HIGH TEMP OP LIFE	0452	DS12885	125C, 5.0 VOLTS	1000	HRS	45	0
VISUAL INSPECTION			WHISKERS < 50uM			3	0
HIGH TEMP OP LIFE	0501	DS12885	125C, 5.0 VOLTS	1000	HRS	45	0
VISUAL INSPECTION			WHISKERS < 50uM			3	0
HIGH TEMP OP LIFE	0511	DS12885	125C, 5.0 VOLTS	1000	HRS	45	0
VISUAL INSPECTION			WHISKERS < 50uM			3	0
HIGH TEMP OP LIFE	0511	DS12885	125C, 5.0 VOLTS	1000	HRS	45	0
VISUAL INSPECTION			WHISKERS < 50uM			3	0
HIGH TEMP OP LIFE	0511	DS12885	125C, 5.0 VOLTS	1000	HRS	45	0
VISUAL INSPECTION			WHISKERS < 50uM			3	0
Total:						0	0

PACKAGE TESTS

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
SOLDERABILITY (Sn/Pb)	0452	DS12885	JESD22-B102, COND C			3	0
SOLDERABILITY (Pb-Free)			JESD22-B102, COND C			3	0
X-RAY	0452	DS12885	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, COND B			6	0
SOLDERABILITY (Sn/Pb)	0452	DS12885	JESD22-B102, COND C			3	0
SOLDERABILITY (Pb-Free)			JESD22-B102, COND C			3	0
X-RAY	0452	DS12885	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, COND B			6	0
SOLDERABILITY (Sn/Pb)	0501	DS12885	JESD22-B102, COND C			3	0
SOLDERABILITY (Pb-Free)			JESD22-B102, COND C			3	0

X-RAY	0501	DS12885	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, COND B	6	0
SOLDERABILITY (Sn/Pb)	0511	DS12885	JESD22-B102, COND C	3	0
SOLDERABILITY (Pb-Free)			JESD22-B102, COND C	3	0
X-RAY	0511	DS12885	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, COND B	6	0
SOLDERABILITY (Sn/Pb)	0511	DS12885	JESD22-B102, COND C	3	0
SOLDERABILITY (Pb-Free)			JESD22-B102, COND C	3	0
X-RAY	0511	DS12885	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, COND B	6	0
SOLDERABILITY (Sn/Pb)	0511	DS12885	JESD22-B102, COND C	3	0
SOLDERABILITY (Pb-Free)			JESD22-B102, COND C	3	0
X-RAY	0511	DS12885	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, COND B	6	0
				Total:	0

PRECONDITIONING LEVEL 1

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
STORAGE LIFE	0452	DS12885	125C	48 HRS	353		
MOISTURE SOAK			85 C/85% R.H.	168 HRS	353		
CONVECTION REFLOW			260C +0/-5C	3 PASS	353	0	
STORAGE LIFE	0452	DS12885	125C	48 HRS	353		
MOISTURE SOAK			85 C/85% R.H.	168 HRS	353		
CONVECTION REFLOW			260C +0/-5C	3 PASS	353	0	
STORAGE LIFE	0501	DS12885	125C	48 HRS	353		
MOISTURE SOAK			85 C/85% R.H.	168 HRS	353		
CONVECTION REFLOW			260C +0/-5C	3 PASS	353	0	
STORAGE LIFE	0511	DS12885	125C	48 HRS	353		
MOISTURE SOAK			85 C/85% R.H.	168 HRS	353		
CONVECTION REFLOW			260C +0/-5C	3 PASS	353	0	
STORAGE LIFE	0511	DS12885	125C	48 HRS	353		
MOISTURE SOAK			85 C/85% R.H.	168 HRS	353		
CONVECTION REFLOW			260C +0/-5C	3 PASS	353	0	
				Total:		0	

STORAGE LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
STORAGE LIFE	0452	DS12885	150C	1000 HRS	77	0	
VISUAL INSPECTION			WHISKERS < 50uM		3	0	
STORAGE LIFE	0452	DS12885	150C	1000 HRS	77	0	
VISUAL INSPECTION			WHISKERS < 50uM		3	0	
STORAGE LIFE	0501	DS12885	150C	1000 HRS	77	0	
VISUAL INSPECTION			WHISKERS < 50uM		3	0	
STORAGE LIFE	0511	DS12885	150C	1000 HRS	77	0	
VISUAL INSPECTION			WHISKERS < 50uM		3	0	
STORAGE LIFE	0511	DS12885	150C	1000 HRS	77	0	
VISUAL INSPECTION			WHISKERS < 50uM		3	0	
STORAGE LIFE	0511	DS12885	150C	1000 HRS	77	0	
VISUAL INSPECTION			WHISKERS < 50uM		3	0	
					Total:	0	

TEMPERATURE CYCLE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
TEMP CYCLE	0452	DS12885	-55C TO 125C	1000 CYS	77	0	
VISUAL INSPECTION			WHISKERS < 50uM		3	0	
TEMP CYCLE	0452	DS12885	-55C TO 125C	1000 CYS	77	0	
VISUAL INSPECTION			WHISKERS < 50uM		3	0	
TEMP CYCLE	0501	DS12885	-55C TO 125C	1000 CYS	77	0	
VISUAL INSPECTION			WHISKERS < 50uM		3	0	
TEMP CYCLE	0511	DS12885	-55C TO 125C	1000 CYS	77	0	
VISUAL INSPECTION			WHISKERS < 50uM		3	0	
TEMP CYCLE	0511	DS12885	-55C TO 125C	1000 CYS	77	0	
VISUAL INSPECTION			WHISKERS < 50uM		3	0	
TEMP CYCLE	0511	DS12885	-55C TO 125C	1000 CYS	77	0	
VISUAL INSPECTION			WHISKERS < 50uM		3	0	
					Total:	0	

TEMPERATURE HUMIDITY BIAS

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HAST	0452	DS12885	130C, 85%R.H.,5.5V	96 HRS	77	0	
VISUAL INSPECTION			WHISKERS < 50uM		3	0	
HAST	0452	DS12885	130C, 85%R.H.,5.5V	96 HRS	77	0	
VISUAL INSPECTION			WHISKERS < 50uM		3	0	
HAST	0501	DS12885	130C, 85%R.H.,5.5V	96 HRS	77	0	
VISUAL INSPECTION			WHISKERS < 50uM		3	0	
HAST	0511	DS12885	130C, 85%R.H.,5.5V	96 HRS	77	0	
VISUAL INSPECTION			WHISKERS < 50uM		3	0	
HAST	0511	DS12885	130C, 85%R.H.,5.5V	96 HRS	77	0	
VISUAL INSPECTION			WHISKERS < 50uM		3	0	
HAST	0511	DS12885	130C, 85%R.H.,5.5V	96 HRS	77	0	

VISUAL INSPECTION	0511	DS12885	WHISKERS < 50uM			3	0
						Total:	0

UNBIASED MOISTURE RESISTANCE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
AUTOCLAVE	0452	DS12885	121C, 2 ATM STEAM, UNBIASED	168	HRS	77	0
VISUAL INSPECTION			WHISKERS < 50uM			3	0
AUTOCLAVE	0452	DS12885	121C, 2 ATM STEAM, UNBIASED	168	HRS	77	0
VISUAL INSPECTION			WHISKERS < 50uM			3	0
AUTOCLAVE	0501	DS12885	121C, 2 ATM STEAM, UNBIASED	168	HRS	76	0
VISUAL INSPECTION			WHISKERS < 50uM			76	0
AUTOCLAVE	0511	DS12885	121C, 2 ATM STEAM, UNBIASED	168	HRS	77	0
VISUAL INSPECTION			WHISKERS < 50uM			3	0
AUTOCLAVE	0511	DS12885	121C, 2 ATM STEAM, UNBIASED	168	HRS	77	0
VISUAL INSPECTION			WHISKERS < 50uM			3	0
AUTOCLAVE	0511	DS12885	121C, 2 ATM STEAM, UNBIASED	168	HRS	77	0
VISUAL INSPECTION			WHISKERS < 50uM			3	0
						Total:	0

Assembly Information:

Package Type: SOIC (Pb-Free) 330 mil
 Flammability: UL 94-V0
 Moisture Sensitivity (JEDEC J-STD20A) Level 1
 Date Code Range: 0502 to 0502

MOISTURE SENSITIVITY LEVEL 1

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
EXTERNAL VISUAL	0502	DS1501	J-STD-020, 6.1a			8	0
ULTRASOUND			J-STD-020			8	0
STORAGE LIFE			125C	48	HRS	8	
MOISTURE SOAK			85 C/85% R.H.	168	HRS	8	
CONVECTION REFLOW			260C +/-5C	3	PASS	8	0
PRECONDITION U/S			J-STD-020			8	0
EXTERNAL VISUAL			J-STD-020, 6.1a			8	0
EXTERNAL VISUAL	0502	DS1501	J-STD-020, 6.1a			8	0
ULTRASOUND			J-STD-020			8	0
STORAGE LIFE			125C	48	HRS	8	
MOISTURE SOAK			85 C/85% R.H.	168	HRS	8	
CONVECTION REFLOW			260C +/-5C	3	PASS	8	0
PRECONDITION U/S			J-STD-020			8	0
EXTERNAL VISUAL			J-STD-020, 6.1a			8	0
EXTERNAL VISUAL	0502	DS1501	J-STD-020, 6.1a			8	0
ULTRASOUND			J-STD-020			8	0
STORAGE LIFE			125C	48	HRS	8	
MOISTURE SOAK			85 C/85% R.H.	168	HRS	8	
CONVECTION REFLOW			260C +/-5C	3	PASS	8	0
PRECONDITION U/S			J-STD-020			8	0
EXTERNAL VISUAL			J-STD-020, 6.1a			8	0
						Total:	0

OPERATING LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HIGH TEMP OP LIFE	0502	DS1501	125C, 5.0 VOLTS	1000 HRS	45	0	
VISUAL INSPECTION			WHISKERS < 50uM		3	0	
HIGH TEMP OP LIFE	0502	DS1501	125C, 5.0 VOLTS	1000 HRS	45	0	
VISUAL INSPECTION			WHISKERS < 50uM		3		
HIGH TEMP OP LIFE	0502	DS1501	125C, 5.0 VOLTS	1000 HRS	45	0	
VISUAL INSPECTION			WHISKERS < 50uM		3	0	
					Total:	0	

PACKAGE TESTS

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
SOLDERABILITY (Sn/Pb)	0502	DS1501	JESD22-B102, COND C		3	0	
SOLDERABILITY (Pb-Free)			JESD22-B102, COND C		3	0	
X-RAY	0502	DS1501	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, COND B		6	0	
SOLDERABILITY (Sn/Pb)	0502	DS1501	JESD22-B102, COND C		3	0	
SOLDERABILITY (Pb-Free)			JESD22-B102, COND C		3	0	
X-RAY	0502	DS1501	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, COND B		6	0	
SOLDERABILITY (Sn/Pb)	0502	DS1501	JESD22-B102, COND C		3	0	
SOLDERABILITY (Pb-Free)			JESD22-B102, COND C		3	0	
X-RAY	0502	DS1501	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, COND B		6	0	
					Total:	0	

PRECONDITIONING LEVEL 1

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
STORAGE LIFE	0502	DS1501	125C	48 HRS	353		
MOISTURE SOAK			85 C/85% R.H.	168 HRS	353		
CONVECTION REFLOW			260C +/-5C	3 PASS	353	0	
STORAGE LIFE	0502	DS1501	125C	48 HRS	353		
MOISTURE SOAK			85 C/85% R.H.	168 HRS	353		
CONVECTION REFLOW			260C +/-5C	3 PASS	353	0	
STORAGE LIFE	0502	DS1501	125C	48 HRS	353		
MOISTURE SOAK			85 C/85% R.H.	168 HRS	353		
CONVECTION REFLOW			260C +/-5C	3 PASS	353	0	
					Total:	0	

STORAGE LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
STORAGE LIFE	0502	DS1501	150C	1000 HRS	77	0	
VISUAL INSPECTION			WHISKERS < 50uM		3	0	
STORAGE LIFE	0502	DS1501	150C	1000 HRS	77	0	
VISUAL INSPECTION			WHISKERS < 50uM		3	0	
STORAGE LIFE	0502	DS1501	150C	1000 HRS	77	0	
VISUAL INSPECTION			WHISKERS < 50uM		3	0	
Total:						0	

TEMPERATURE CYCLE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
TEMP CYCLE	0502	DS1501	-55C TO 125C	1000 CYS	77	0	
VISUAL INSPECTION			WHISKERS < 50uM		3	0	
TEMP CYCLE	0502	DS1501	-55C TO 125C	1000 CYS	77	0	
VISUAL INSPECTION			WHISKERS < 50uM		3	0	
TEMP CYCLE	0502	DS1501	-55C TO 125C	1000 CYS	77	0	
VISUAL INSPECTION			WHISKERS < 50uM		3	0	
Total:						0	

TEMPERATURE HUMIDITY BIAS

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HAST	0502	DS1501	130C, 85%R.H.,3.5V	96 HRS	77	0	
VISUAL INSPECTION			WHISKERS < 50uM		3	0	
HAST	0502	DS1501	130C, 85%R.H.,3.5V	96 HRS	77	0	
VISUAL INSPECTION			WHISKERS < 50uM		3	0	
HAST	0502	DS1501	130C, 85%R.H.,3.5V	96 HRS	77	0	
VISUAL INSPECTION			WHISKERS < 50uM		3	0	
Total:						0	

UNBIASED MOISTURE RESISTANCE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
AUTOCLAVE	0502	DS1501	121C, 2 ATM STEAM, UNBIASED	168 HRS	73	0	
VISUAL INSPECTION			WHISKERS < 50uM		3	0	
AUTOCLAVE	0502	DS1501	121C, 2 ATM STEAM, UNBIASED	168 HRS	77	0	
VISUAL INSPECTION			WHISKERS < 50uM		3	0	
AUTOCLAVE	0502	DS1501	121C, 2 ATM STEAM, UNBIASED	168 HRS	76	0	
VISUAL INSPECTION			WHISKERS < 50uM		3	0	
Total:						0	

Assembly Information:

Package Type: SOIC w/Crystal 300 mil
Flammability: UL 94-V0
Moisture Sensitivity (JEDEC J-STD20A) Level 3
Date Code Range: 0434 to 0507

MOISTURE SENSITIVITY LEVEL 3

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
EXTERNAL VISUAL	0434	DS32KHZS	J-STD-020, 6.1a		8	0	
ULTRASOUND			J-STD-020		8	0	
STORAGE LIFE			125C	24 HRS	8		
MOISTURE SOAK			30C/60% R.H.	192 HRS	8		
CONVECTION REFLOW			235C +5/-0C	2 PASS	8	0	
EXTERNAL VISUAL			J-STD-020, 6.1a		8	0	
PRECONDITION U/S			J-STD-020		8	0	
EXTERNAL VISUAL	0434	DS32KHZS	J-STD-020, 6.1a		8	0	
ULTRASOUND			J-STD-020		8	0	
STORAGE LIFE			125C	24 HRS	8		
MOISTURE SOAK			30C/60% R.H.	192 HRS	8		
CONVECTION REFLOW			235C +5/-0C	2 PASS	8	0	
EXTERNAL VISUAL			J-STD-020, 6.1a		8	0	
PRECONDITION U/S			J-STD-020		8	0	
EXTERNAL VISUAL	0435	DS32KHZS	J-STD-020, 6.1a		8	0	
ULTRASOUND			J-STD-020		8	0	
STORAGE LIFE			125C	24 HRS	8		
MOISTURE SOAK			30C/60% R.H.	192 HRS	8		
CONVECTION REFLOW			235C +5/-0C	2 PASS	8	0	
EXTERNAL VISUAL			J-STD-020, 6.1a		8	0	
PRECONDITION U/S			J-STD-020		8	0	
EXTERNAL VISUAL	0451	DS32KHZS	J-STD-020, 6.1a		8	0	
ULTRASOUND			J-STD-020		8	0	
STORAGE LIFE			125C	24 HRS	8		
MOISTURE SOAK			30C/60% R.H.	192 HRS	8		
CONVECTION REFLOW			235C +5/-0C	2 PASS	8	0	
EXTERNAL VISUAL			J-STD-020, 6.1a		8	0	
PRECONDITION U/S			J-STD-020		8	0	
EXTERNAL VISUAL	0451	DS32KHZS	J-STD-020, 6.1a		8	0	
ULTRASOUND			J-STD-020		8	0	
STORAGE LIFE			125C	24 HRS	8		
MOISTURE SOAK			30C/60% R.H.	192 HRS	8		
CONVECTION REFLOW			235C +5/-0C	2 PASS	8	0	
EXTERNAL VISUAL			J-STD-020, 6.1a		8	0	
PRECONDITION U/S			J-STD-020		8	0	
EXTERNAL VISUAL	0452	DS32KHZS	J-STD-020, 6.1a		8	0	
ULTRASOUND			J-STD-020		8	0	
STORAGE LIFE			125C	24 HRS	8		
MOISTURE SOAK			30C/60% R.H.	192 HRS	8		
CONVECTION REFLOW			235C +5/-0C	2 PASS	8	0	
EXTERNAL VISUAL			J-STD-020, 6.1a		8	0	
PRECONDITION U/S			J-STD-020		8	0	
Total:						0	

OPERATING LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
HIGH TEMP OP LIFE	0434	DS32KHZS	125C, 5.5 VOLTS	1000 HRS	64	0	
HIGH TEMP OP LIFE	0434	DS32KHZS	125C, 5.5 VOLTS	1000 HRS	64	0	

HIGH TEMP OP LIFE	0435	DS32KHZS	125C, 5.5 VOLTS	1000 HRS	64	0
HIGH TEMP OP LIFE	0451	DS32KHZS	125C, 5.5 VOLTS	1000 HRS	45	0
HIGH TEMP OP LIFE	0451	DS32KHZS	125C, 5.5 VOLTS	1000 HRS	45	0
HIGH TEMP OP LIFE	0452	DS32KHZS	125C, 5.5 VOLTS	1000 HRS	45	0
HIGH TEMP OP LIFE	0453	DS3231S	125C, 5.5 VOLTS	1000 HRS	45	0
					Total:	0

PACKAGE TESTS

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
SOLDERABILITY (Sn/Pb)	0434	DS32KHZS	JESD22-B102, COND C		3	0	
X-RAY	0434	DS32KHZS	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, COND B		6	0	
SOLDERABILITY (Sn/Pb)	0434	DS32KHZS	JESD22-B102, COND C		3	0	
X-RAY	0434	DS32KHZS	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, COND B		6	0	
SOLDERABILITY (Sn/Pb)	0435	DS32KHZS	JESD22-B102, COND C		3	0	
X-RAY	0435	DS32KHZS	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, COND B		6	0	
X-RAY	0451	DS32KHZS	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, COND B		6	0	
X-RAY	0451	DS32KHZS	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, COND B		6	0	
X-RAY	0452	DS32KHZS	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, COND B		6	0	
					Total:	0	

PRECONDITIONING LEVEL 3

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
STORAGE LIFE	0434	DS32KHZS	125C	24 HRS	449		
MOISTURE SOAK			30C/60% R.H.	192 HRS	449	0	
CONVECTION REFLOW			235C +5/-0C	2 PASS	449	0	
STORAGE LIFE	0434	DS32KHZS	125C	24 HRS	449		
MOISTURE SOAK			30C/60% R.H.	192 HRS	449		
CONVECTION REFLOW			235C +5/-0C	2 PASS	449	0	
STORAGE LIFE	0435	DS32KHZS	125C	24 HRS	449		

MOISTURE SOAK	0435	DS32KHZS	30C/60% R.H.	192	HRS	449		
CONVECTION REFLOW			235C +5/-0C	2	PASS	449	0	
STORAGE LIFE	0451	DS32KHZS	125C	24	HRS	353		
MOISTURE SOAK			30C/60% R.H.	192	HRS	353		
CONVECTION REFLOW			235C +5/-0C	2	PASS	353	0	
STORAGE LIFE	0451	DS32KHZS	125C	24	HRS	353		
MOISTURE SOAK			30C/60% R.H.	192	HRS	353		
CONVECTION REFLOW			235C +5/-0C	2	PASS	353	0	
STORAGE LIFE	0452	DS32KHZS	125C	24	HRS	353		
MOISTURE SOAK			30C/60% R.H.	192	HRS	353		
CONVECTION REFLOW			235C +5/-0C	2	PASS	353	0	
					Total:		0	

STORAGE LIFE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
STORAGE LIFE	0434	DS32KHZS	125C	1000 HRS	77	0	
STORAGE LIFE	0434	DS32KHZS	125C	1000 HRS	77	0	
STORAGE LIFE	0435	DS32KHZS	125C	1000 HRS	77	0	
STORAGE LIFE	0451	DS32KHZS	125C	1000 HRS	77	0	
STORAGE LIFE	0451	DS32KHZS	125C	1000 HRS	77	0	
STORAGE LIFE	0452	DS32KHZS	125C	1000 HRS	77	0	
STORAGE LIFE	0453	DS3231S	125C	2300 HRS	77	0	
STORAGE LIFE	0507	DS3231S	150C	1000 HRS	77	0	
					Total:	0	

TEMPERATURE CYCLE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
TEMP CYCLE	0434	DS32KHZS	-40 TO 85C	1000 CYS	77	0	
TEMP CYCLE	0434	DS32KHZS	-40 TO 85C	1000 CYS	77	0	
TEMP CYCLE	0435	DS32KHZS	-40 TO 85C	1000 CYS	77	0	
TEMP CYCLE	0451	DS32KHZS	-40 TO 85C	1000 CYS	77	0	
TEMP CYCLE	0451	DS32KHZS	-40 TO 85C	1000 CYS	77	0	
TEMP CYCLE	0452	DS32KHZS	-40 TO 85C	1000 CYS	77	0	
					Total:	0	

TEMPERATURE HUMIDITY BIAS

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	FA NO
BIASED MOISTURE	0434	DS32KHZS	85/85, 5.5 VOLTS	1000 HRS	77	0	
BIASED MOISTURE	0434	DS32KHZS	85/85, 5.5 VOLTS	1000 HRS	77	0	
BIASED MOISTURE	0435	DS32KHZS	85/85, 5.5 VOLTS	1000 HRS	77	0	
BIASED MOISTURE	0451	DS32KHZS	85/85, 5.5 VOLTS	1000 HRS	77	0	
BIASED MOISTURE	0451	DS32KHZS	85/85, 5.5 VOLTS	1000 HRS	77	0	
BIASED MOISTURE	0452	DS32KHZS	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	0434	DS32KHZS	121C, 2 ATM STEAM, UNBIASED	168 HRS	77	0	
MOISTURE SOAK	0434	DS32KHZS	60C/90% R.H.	1000 HRS	77	0	
AUTOCLAVE	0434	DS32KHZS	121C, 2 ATM STEAM, UNBIASED	168 HRS	77	0	
MOISTURE SOAK	0434	DS32KHZS	60C/90% R.H.	1000 HRS	77	0	
AUTOCLAVE	0435	DS32KHZS	121C, 2 ATM STEAM, UNBIASED	168 HRS	77	0	
MOISTURE SOAK	0435	DS32KHZS	60C/90% R.H.	1000 HRS	77	0	
AUTOCLAVE	0451	DS32KHZS	121C, 2 ATM STEAM, UNBIASED	168 HRS	77	0	
AUTOCLAVE	0451	DS32KHZS	121C, 2 ATM STEAM, UNBIASED	168 HRS	77	0	
AUTOCLAVE	0452	DS32KHZS	121C, 2 ATM STEAM, UNBIASED	168 HRS	77	0	

Total: 0

FAILURE RATE: MTTF (YRS): 289343 FITS: 0.4