

4/16/2014



**RELIABILITY MONITOR REPORT  
FOR**

**San Antonio 0.4 $\mu$ m Silicon Gate CMOS (E35)**

**MAXIM INTEGRATED**

**160 RIO ROBLES  
SAN JOSE, CA 95134**

**This Report was prepared by  
MAXIM INTEGRATED Reliability Engineering**

**Summary:**

The data in the tables that follow was generated as the result of an on-going Process Reliability Monitor. The specific products in this process monitor are:

DS2431	DS28E01
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The calculated failure rate for devices using this process is:

**FAILURE RATE: MTTF (YRS): 28201      QUANTITY: 240      FAILS: 0      FITS: 4.0**

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

**Cf: 60%      Ea: 0.7      Tu: 25 °C**

The reliability data follows and in this section is the detailed reliability data by stress. The reliability data section includes the latest data available. This report covers data between 4/1/2013 and 3/31/2014 .

**Process Information:**

Process Description: San Antonio 0.4µm Silicon Gate CMOS (E35)

**OPERATING LIFE**

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.
HIGH TEMP OP LIFE	1342	DS28E01	125C, 5.25 VOLTS	1000 HRS	80	0	ZJ390802ABA-Q1
HIGH TEMP OP LIFE	1342	DS28E01	125C, 5.25 VOLTS	1000 HRS	80	0	ZJ390802ABA-Q2
HIGH TEMP OP LIFE	1342	DS28E01	125C, 5.25 VOLTS	1000 HRS	80	0	ZJ390802ABA-Q3
<b>Total:</b>						<b>0</b>	

**STORAGE LIFE**

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.
STORAGE LIFE	1342	DS28E01	150°C	1000 HRS	77	0	ZJ390802ABA-Q1
STORAGE LIFE	1342	DS28E01	150°C	1000 HRS	77	0	ZJ390802ABA-Q2
STORAGE LIFE	1342	DS28E01	150°C	1000 HRS	77	0	ZJ390802ABA-Q3
<b>Total:</b>						<b>0</b>	

**TEMPERATURE CYCLE**

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.
TEMP CYCLE, 5' RAMP, 10' DWELL	1306	DS2431	-55C TO 125C	1000 CYS	220	0	ZH386140AB-ENG
TEMP CYCLE, 5' RAMP, 10' DWELL	1306	DS2431	-55C TO 125C	1000 CYS	220	0	ZH386077AB-ENG
TEMP CYCLE, 5' RAMP, 10' DWELL	1306	DS2431	-55C TO 125C	1000 CYS	220	0	ZH386145AB-ENG
TEMP CYCLE, 5' RAMP, 10' DWELL	1306	DS2431	-55C TO 125C	1000 CYS	220	0	ZH386140AC-ENG
TEMP CYCLE, 5' RAMP, 10' DWELL	1306	DS2431	-55C TO 125C	1000 CYS	220	0	ZH386077AC-ENG

TEMP CYCLE, 5' RAMP, 10' DWELL	1306	DS2431	-55C TO 125C	500	CYS	220	0	ZH386145AC-ENG
TEMP CYCLE, 5' RAMP, 10' DWELL	1306	DS2431	-55C TO 125C	1000	CYS	220	0	ZH386140AD-ENG
TEMP CYCLE, 5' RAMP, 10' DWELL	1342	DS28E01	-55C TO 125C	1000	CYS	82	0	ZJ390802ABA-Q1
TEMP CYCLE, 5' RAMP, 10' DWELL	1342	DS28E01	-55C TO 125C	1000	CYS	82	0	ZJ390802ABA-Q2
TEMP CYCLE, 5' RAMP, 10' DWELL	1342	DS28E01	-55C TO 125C	1000	CYS	82	0	ZJ390802ABA-Q3
<b>Total:</b>							<b>0</b>	

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#### TEMPERATURE HUMIDITY BIAS

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.	
HAST	1342	DS28E01	130C, 85%R.H., 5.25V	100	HRS	45	0	ZJ390802ABA-Q1
HAST	1342	DS28E01	130C, 85%R.H., 5.25V	100	HRS	45	0	ZJ390802ABA-Q2
HAST	1342	DS28E01	130C, 85%R.H., 5.25V	100	HRS	45	0	ZJ390802ABA-Q3
<b>Total:</b>							<b>0</b>	

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#### UNBIASED MOISTURE RESISTANCE

DESCRIPTION	DATE CODE	TEST VEHICLE	CONDITION	READPOINT	QUANTITY	FAILS	LOT NO.	
HAST, NO BIAS	1342	DS28E01	130C, 85% R.H.	300	HRS	77	0	ZJ390802ABA-Q1
HAST, NO BIAS	1342	DS28E01	130C, 85% R.H.	300	HRS	77	0	ZJ390802ABA-Q2
HAST, NO BIAS	1342	DS28E01	130C, 85% R.H.	300	HRS	77	0	ZJ390802ABA-Q3
<b>Total:</b>							<b>0</b>	

**FAILURE RATE: MTTF (YRS): 28201      QUANTITY: 240      FAILS: 0      FITS: 4.0**