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PRODUCT RELIABILITY REPORT
FOR

DS2726, Rev A2

Maxim Integrated Products

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Conclusion:

The following qualification successfully meets the quality and reliability standards required of all Maxim products:

DS2726, Rev A2

In addition, Maxim's continuous reliability monitor program ensures that all outgoing product will continue to meet Maxim's quality and reliability standards. The current status of the reliability monitor program can be viewed at http://www.maxim-ic.com/TechSupport /dsreliability.html.

Device Description:

A description of this device can be found in the product data sheet. You can find the product data sheet at http://dbserv.maxim-ic.com/l_datasheet3.cfm.

Reliability Derating:

The Arrhenius model will be used to determine the acceleration factor for failure mechanisms that are temperature accelerated.

AfT = exp((Ea/k)*(1/Tu - 1/Ts)) = tu/ts
AfT = Acceleration factor due to Temperature
tu = Time at use temperature (e.g. 55°C)
ts = Time at stress temperature (e.g. 125°C)
k = Boltzmann's Constant (8.617 x 10-5 eV/°K)
Tu = Temperature at Use (°K)
Ts = Temperature at Stress (°K)
Ea = Activation Energy (e.g. 0.7 ev)

The activation energy of the failure mechanism is derived from either internal studies or industry accepted standards, or activation energy of 0.7ev will be used whenever actual failure mechanisms or their activation energies are unknown. All deratings will be done from the stress ambient temperature to the use ambient temperature.

An exponential model will be used to determine the acceleration factor for failure mechanisms, which are voltage accelerated.

AfV = exp(B*(Vs - Vu))
AfV = Acceleration factor due to Voltage
Vs = Stress Voltage (e.g. 7.0 volts)
Vu = Maximum Operating Voltage (e.g. 5.5 volts)
B = Constant related to failure mechanism type (e.g. 1.0, 2.4, 2.7, etc.)

The Constant, B, related to the failure mechanism is derived from either internal studies or industry accepted standards, or a B of 1.0 will be used whenever actual failure mechanisms or their B are unknown. All deratings will be done from the stress voltage to the maximum operating voltage. Failure rate data from the operating life test is reported using a Chi-Squared statistical model at the 60% or 90% confidence level (Cf).

The failure rate, Fr, is related to the acceleration during life test by:

Fr = X/(ts * AfV * AfT * N * 2)
X = Chi-Sq statistical upper limit
N = Life test sample size

Failure Rates are reported in FITs (Failures in Time) or MTTF (Mean Time To Failure). The FIT rate is related to MTTF by:

MTTF = 1/Fr

NOTE: MTTF is frequently used interchangeably with MTBF.

The calculated failure rate for this device/process is:

FAILURE RATE:	**MTTF (YRS):**	**76127**	**FITS:**	**1.5**
	DEVICE HOURS:	**611045218**	**FAILS:**	**0**

Only data from Operating Life or similar stresses are used for this calculation.

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 the device information. The next section is the detailed reliability data for each stress. The reliability data section includes the latest data available and may contain some generic data. **Bold** Product Number denotes specific product data.

Device Information:

Process:	BCD88, 80V BCD Process (Bipolar CMOS DMOS)
Passivation:	Oxide/Nitride
Die Size:	187 x 187
Number of Transistors:	6597
Interconnect:	Aluminum / 0.5% Copper
Gate Oxide Thickness:	175A

ELECTRICAL CHARACTERIZATION

DESCRIPTION	**DATE CODE/PRODUCT/LOT**			**CONDITION**	**READPOINT**		**QTY**	**FAILS**	**FA#**
ESD SENSITIVITY	0812	**DS2726**	ZJ754000BA-	EOS/ESD S5.1 HBM 500 VOLTS	1	PUL'S	3	0	
ESD SENSITIVITY	0812	**DS2726**	ZJ754000BA-	EOS/ESD S5.1 HBM 1000 VOLTS	1	PUL'S	3	1	40011692
ESD SENSITIVITY	0812	**DS2726**	ZJ754000BA-	EOS/ESD S5.1 HBM 2000 VOLTS	1	PUL'S	3	3	No FA
LATCH-UP	0812	**DS2726**	ZJ754000BA-	JESD78, I-TEST 25C			6	0	
LATCH-UP	0812	**DS2726**	ZJ754000BA-	JESD78, V-SUPPLY TEST 25C			6	0	
					Total:			**4**	

OPERATING LIFE

DESCRIPTION	**DATE CODE/PRODUCT/LOT**			**CONDITION**	**READPOINT**		**QTY**	**FAILS**	**FA#**
HIGH TEMP OP LIFE	0739	MAX16816ATJ+	NBRTAAFAQ	135C, 50.0 VOLTS	192	HRS	55	0	
HIGH TEMP OP LIFE	0807	MAX8798ETX+	NBKTBAP	135C, 50.0 VOLTS	168	HRS	48	0	
HIGH TEMP OP LIFE	0750	MAX6496ATA+	NW1ABQ002	135C, 50.0 VOLTS	1000	HRS	46	0	
HIGH TEMP OP LIFE	0819	MAX16823AUE+	NEOZAQ001	135C, 50.0 VOLTS	832	HRS	80	0	
HIGH TEMP OP LIFE	0803	MAX13448EESD	NGAZCQ001	135C, 50.0 VOLTS	192	HRS	50	0	
HIGH TEMP OP LIFE	0712	MAX9714ETJ+	NHH0B3650	135C, 50.0 VOLTS	1000	HRS	80	0	

HIGH TEMP OP LIFE	0726	MAX9714ETJ+	NHH0BA738	135C, 50.0 VOLTS	1000	HRS	80	0
HIGH TEMP OP LIFE	0737	MAX9714ETJ+	NHH0BA764	135C, 50.0 VOLTS	1000	HRS	45	0
HIGH TEMP OP LIFE	0741	MAX16912ETT+	NKXZAQ001	135C, 50.0 VOLTS	192	HRS	48	0
HIGH TEMP OP LIFE	0729	MAX15008ATJ+	N990BQ002A	135C, 50.0 VOLTS	192	HRS	55	0
HIGH TEMP OP LIFE	0812	**DS2726**	ZJ754000BA-	125C, 50.0 VOLTS (PSD)	1000	HRS	45	0
					Total:			**0**

FAILURE RATE:	**MTTF (YRS):**	**76127**	**FITS:**	**1.5**
	DEVICE HOURS:	**611045218**	**FAILS:**	**0**