SCOPE: CMOS VOLTAGE CONVERTER

Device Type	Generic Number	SMD Number
01	MAX1044(x)/883B	5962-3870701

Case Outline(s). The case outlines shall be designated in Mil-Std-1835 and as follows:

Outline Letter		Mil-Std-1835	Case Outline	Package Code
Maxim	SMD			
JA	P	GDIP1-T08 or CDIP2-T08	8 LEAD CERDIP	J08
TV	G	MACY1-8X	8 LEAD CAN	8 TO 99

Absolute Maximum Ratings

Voltage Referenced to V⁻

V_{DD} TO GND 9.5V

 Input Voltage (Boost, LV and OSC)1/ .... $(-0.3Vdc) \leq V_{IN} \leq V^+ +0.3Vdc)$

 Output short circuit duration (V+≤5.5V dc) .... Continuous

 Current into LV pin 20μA

Lead Temperature (soldering, 10 seconds) .... +300°C

Storage Temperature .... -65°C to +150°C

Continuous Power Dissipation ....………... T_A=+70°C

 8 lead CERDIP(derate 8.0mW/°C above +70°C) ....……. 640mW

 8 lead Can(derate 6.67mW/°C above +70°C) ....……... 533mW

Junction Temperature T_J ....……… +150°C

Thermal Resistance, Junction to Case, ΘJC:

        Case Outline   8 lead CERDIP......................................………... 55°C/W

        Case Outline   8 lead Can ....………. 45°C/W

 Thermal Resistance, Junction to Ambient, ΘJA:

        Case Outline   8 lead CERDIP.....................................………... 125°C/W

        Case Outline 8 lead Can ....………... 150°C/W

Recommended Operating Conditions

 Ambient Operating Range (T_A) ....………... -55°C to +125°C

 Supply Voltage Range (V^+) ....………... 1.5V dc to 9.0V dc

1/ Connecting any input terminal to voltages greater than V^+ or less than ground may cause destructive
    latchup. It is recommended that no inputs from sources operating from external supplies be applied
    prior to power-up of the device.

Stresses beyond those listed under "Absolute Maximum Ratings" may cause permanent damage to the device.
These are stress ratings only, and functional operation of the device at these or any other conditions beyond
those indicated in the operational sections of the specifications is not implied. Exposure to absolute maximum
rating conditions for extended periods may affect device reliability.

TABLE 1. ELECTRICAL TESTS:

TEST	Symbol	CONDITIONS -55 °C <=T_A<= +125°C V^+=+5.0V Unless otherwise specified	Group A Subgroup	Device type	Limits Min	Limits Max	Units
SWITCH							
Minimum Supply Voltage	I_{CC}	R_L=∞ Boost and OSC, no connection	1	All		200	μA
Minimum Supply Voltage	V+Min	R_L=10kΩ	1,2,3	All	1.5		V
Maximum Supply Voltage	V+Max	R_L=10kΩ	1,2,3	All		9.0	V
Output Resistance	R_{OUT}	I_L=20mA, f_{OSC}=5.0kHz	1 2,3	All		100 150	Ω
		I_L=3.0mA, f_{OSC}=1.0kHz, V^+=2V	1,2,3			400	
Oscillator Frequency NOTE 2	f_{OSC}	C_{OSC}=1.0pF, V^+=5.0V	4,5,6	All	5.0		kHz
		C_{OSC}=1.0pF, V^+=5.0V	4,5,6	All	1.0		
Power Efficiency	P_{EFF}	R_L=5kΩ, f_{OSC}=5kHz	1	All	95		%
Voltage Conversion Efficiency	VC_{EFF}	R_L=∞	1	All	97		%
Oscillator Sink Current	I_{SINK}	V_{OSC}=V+, BOOST=0V	1,2,3	All	0.1	3.0	μA
		V_{OSC}=V+, BOOST=V+	1,2,3	All	1.0	20	
Oscillator Source Current	I_{SOURCE}	V_{OSC}=0V, BOOST=0V	1,2,3	All	0.1	3.0	μA
		V_{OSC}=0V, BOOST=V+	1,2,3	All	1.0	20	

NOTE 2: f_{OSC} is tested with C_{OSC}=100pF to minimize the effects of test fixture capacitance loading. The 1.0pF frequency is correlated to this 100pF test point and is intended to simulate the capacitance at the OSC pin when the device is plugged into a test socket and no external capacitor is used.

Package	ORDERING INFORMATION:	SMD Number
8 pin CERDIP	MAX1044MJA/883B	5962-3870701MPA
8 pin Can	MAX1044MTV/883B	5962-3870701MGC

TERMINAL CONNECTIONS:

	J8	TO99
1	BOOST	BOOST
2	CAP+	CAP+
3	GND	GND
4	CAP-	CAP-
5	VOUT	VOUT
6	LV	LV
7	OSC	OSC
8	V+	V+

QUALITY ASSURANCE

Sampling and inspection procedures shall be in accordance with MIL-Prf-38535, Appendix A as specified in Mil-Std-883.

Screening shall be in accordance with Method 5004 of Mil-Std-883. Burn-in test Method 1015:
1. Test Condition, A, B, C, or D.
2. TA = +125°C minimum.
3. Interim and final electrical test requirements shall be specified in Table 2.

Quality conformance inspection shall be in accordance with Method 5005 of Mil-Std-883, including Groups A, B, C, and D inspection.

Group A inspection:
1. Tests as specified in Table 2.
2. Selected subgroups in Table 1, Method 5005 of Mil-Std-883 shall be omitted.

Group C and D inspections:
a. End-point electrical parameters shall be specified in Table 1.
b. Steady-state life test, Method 1005 of Mil-Std-883:
1. Test condition A, B, C, D.
2. TA = +125°C, minimum.
3. Test duration, 1000 hours, except as permitted by Method 1005 of Mil-Std-883.

TABLE 2. **ELECTRICAL TEST REQUIREMENTS**

Mil-Std-883 Test Requirements	Subgroups per Method 5005, Table 1
Interim Electric Parameters Method 5004	1
Final Electrical Parameters Method 5005	1*, 2, 3, 4, 5, 6
Group A Test Requirements Method 5005	1, 2, 3, 4, 5, 6
Group C and D End-Point Electrical Parameters Method 5005	1

* PDA applies to Subgroup 1 only.