SCOPE: **FIXED +5V CMOS, STEP-UP SWITCHING REGULATOR**

Device Type	Generic Number
01	MAX630M(x)/883B

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-T8 or CDIP2-T8	8 LEAD CERDIP	J8
FB	X	GDFP3-F10	10 LEAD FLATPACK	F10

Absolute Maximum Ratings

Supply Voltage $+V_S$ to GND ..... +18V
Output Voltage, L_X and LBD ..... +18V
Input Voltage, Pins 1,2,6,7 ..... -0.3V to $+V_S$+0.3V
L_X Output Current ..... 525 mA Peak
LBD Output Current 50mA

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
10 lead FLATPACK(derate 5.3mW/°C above +70°C) 421mW
Junction Temperature T_J ..... +150°C
Thermal Resistance, Junction to Case
8 lead CERDIP, ΘJC: ..... 55°C/W
10 lead FLATPACK, ΘJC: ..... 85°C/W
Thermal Resistance, Junction to Ambient
8 lead CERDIP. ΘJA: ..... 125°C/W
10 lead FLATPACK, ΘJA: ..... 190°C/W

Recommended Operating Conditions.

Ambient Operating Range (T_A) ..... -55°C to +125°C
Supply Voltage Range, V_{OUT}=+5V($+V_S$) ..... 5.0V to 16.5V
Supply Voltage Range, Adjustable Mode ($+V_S$) ..... 2.6V to 16.5V

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

PARAMETER	Symbol	CONDITIONS -55 °C <=T_A<= +125°C V_S+=+5V Unless otherwise specified	Group A Subgroup	Device type	Limits Min	Limits Max	Units
Supply Voltage	$+V_S$	Start-up	1	All	1.8		V
Internal Reference Voltage	VREF		1 2,3	All	1.29 1.25	1.33 1.37	V
Switch Current	I_{SW}	V_{LX}=400mV V_{LX}=1.0V	1	All	75 100		mA
Supply Current	I_S	I_{LX}=0mA	1 2,3	All		125 200	µA
Output Voltage	V_{OUT}	R1=533kΩ, R2=51kΩ NOTE 1	1 2,3	All	14.3 14.0	15.7 16.0	V
Line Regulation	VR_{LINE}	R1=533kΩ, R2=51kΩ NOTE 1 5V<V_S<10V	1,2,3	All	-1.0	+1.0	%/V_{OUT}
Load Regulation	VR_{LOAD}	R1=533kΩ, R2=51kΩ I_L=1mA to 10mA	1,2,3	All	-0.2	+0.2	%/V_{OUT}
Reference set internal pull-down resistance	R_{IC}	V_{IC}=V_S	1 2,3	All	0.5 0.3	10 10	mΩ
Reference set internal voltage threshold	V_{IC}		1,2,3	All	0.2	1.3	V
Switch Leakage Current pull-down resistance	ICO	V_{LX}=16.5V	1 2,3	All		1.0 30	µA
Supply Current (Shut down)	ISO		1 2,3	All		1.0 10	µA
Low-Battery Bias Current	I_{LBR}		1	All		10	nA
Low-Battery Detector Output Current	I_{LBD}	V_{LBD}=0.4V, V_{LBR}=1.1V	1,2,3	All	250		µA
Low-Battery Detector Ouput Leakage	I_{LBDO}	V_{LBD}=16.5V, V_{LBR}=1.4V	1	All		5.0	µA
VFB Input Bias Current	I_{FB}		1	All		10	nA

NOTE 1: R1 and R2 give a nominal output voltage of 15V.

ORDERING INFORMATION	MAXIM PART NUMBER	SMD NUMBER
8 LEAD CERDIP	MAX630MJA/883B	5962-9454001MPA
10 LEAD FLATPACK	MAX630MFB/883B	5962-9454001MXC

TERMINAL NUMBER	8 LEAD CERDIP	10 LEAD FLATPACK
1	LBR	NC
2	C_X	LBR
3	L_X	C_X
4	GND	L_X
5	+VS	GND
6	I_C	NC
7	V_{FB}	+VS
8	LBD	I_C
9		V_{FB}
10		LBD

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
Group A Test Requirements Method 5005	1, 2, 3
Group C and D End-Point Electrical Parameters Method 5005	1

* PDA applies to Subgroup 1 only.