SCOPE: +5V to ±10V CMOS SWITCHED-CAPACITOR VOLTAGE CONVERTER

Device Type	Generic Number	SMD Number
01	MAX680(x)/883B	5962-93120

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

Absolute Maximum Ratings

Voltage Referenced to V^-

V_{CC} to GND ..... +6.2V
V^+ ..... +12V
V- ..... -12V
V- Short-circuit Current Duration ..... Continuous
V^+ Current 75mA
V_{CC} $\Delta V/\Delta T$ 1V/µs

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
Junction Temperature T_J ..... +150°C
Thermal Resistance, Junction to Case, ΘJC:
Case Outline 8 lead CERDIP..... 55°C/W
Thermal Resistance, Junction to Ambient, ΘJA:
Case Outline 8 lead CERDIP..... 125°C/W

Recommended Operating Conditions

Ambient Operating Range (T_A) ..... -55°C to +125°C
Input Voltage Range (V_{CC}), R_L=10kΩ ..... +2.0V dc to +6.0V dc

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 Unless otherwise specified	Group A Subgroup	Device type	Limits Min	Limits Max	Units
Supply Voltage Range	V_{CC}	R_L=10kΩ	1,2,3	All	2	6	V
Supply Current	I_{CC}	V_{CC}=3V, R_L=∞	1	All		1	mA
		V_{CC}=5V, R_L=∞	1 2,3			2 3	
Positive Charge-Pump Output Source Resistance	R_{OUT}+	I_L+=5mA, I_L-=0mA, V_{CC}=2.8V	1	All		300	Ω
		I_L+=10mA, I_L-=0mA, V_{CC}=5V	1 2,3			250 400	
Negative Charge-Pump Output Source Resistance	R_{OUT}-	I_L-=5mA, I_L+=0mA, V+=5.6V	1	All		175	Ω
		I_L-=10mA, I_L+=0mA, V+=10V	1 2,3			150 250	
Oscillator Frequency	f_{OSC}		1	All	4		kHz
Voltage Conversion Efficiency	V_{EFF}	V+, R_L=∞	1	All	95		%
		V-, R_L=∞			90		

Package	ORDERING INFORMATION:	SMD Number
8 pin CERDIP	MAX680MJA/883B	5962-9312001MPA

TERMINAL CONNECTIONS:

	J8
1	C-
2	C2+
3	C2-
4	V-
5	GND
6	V_{CC}
7	C1+
8	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
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.