SCOPE: 5TH-ORDER, ZERO DC ERROR, LOWPASS FILTERS

Device Type	Generic Number
01	MXL1062MJ8/883B
02	MAX280MJA/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 or J8	P	GDIP1-T8 or CDIP2-T8	8 Lead Sidebraze	J8

Absolute Maximum Ratings

Total Supply Voltage 18V

Input Voltage to GND (any input) ..... V^- -0.3V≤V_{IN}≤V^+ +0.3V

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

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

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

8 pin CERDIP(derate 8.0mW/°C above +70°C) 640mW

Junction Temperature T_J ..... +150°C

Thermal Resistance, Junction to Case, ΘJC:

8 pin CERDIP ..... 55°C/W

Thermal Resistance, Junction to Ambient, ΘJA:

8 pin CERDIP ..... 125°C/W

Recommended Operating Conditions

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

Positive Supply Voltage (V+) ..... +5V

Negative Supply Voltage (V-) ..... -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:

TEST	Symbol	CONDITIONS -55 °C <=T_A<= +125°C V+=5V, V-=-5V 1/	Group A Subgroup	Device type	Limits Min	Limits Max	Units
Power Supply Current	I	COSC pin to V-=100pF	1 2,3	All		7 10	mA
Filter Gain	AF	At f_{IN}=0.5fc, NOTE 3	4	All		-0.3	dB
		At f_{IN}=fc At f_{IN}=2fc At f_{IN}=4fc	4,5,6	All	-2 -28 -52		
		At f_{IN}=16kHz, f_{CLK}=400kHz, R_L=6.5kΩ, C_L=0.01µF, Divider Ratio pin at V+	4,5,6	All	-43		
Filter Output pin dc swing	+VFO	OUTPUT pin buffered with an external operational amplifier	1,2,3	All	+3.5		V
	-VFO				-3.5		
INTERNAL BUFFER SECTION							
Bias Current	I_B		1 2,3	All		50 1000	pA
Offset Voltage	V_{OS}		1	01		20	mV
				02		2	
Voltage Swing	$+V_{SW}$	RL=20kΩ, external operational amplifier	1,2,3	All	+3.5		V
	$-V_{SW}$				-3.5		
CLOCK SECTION		NOTE 4					
Internal Oscillator Frequency	f_{IO}	COSC pin to V-=100pF	4 5,6	01	25 15	50 65	kHz
			4 5,6	02	31 29	39 43	
COSC Pin Source or Sink Current	I_{OSC}		1,2,3	All		80	µA

NOTE 1: Unless otherwise specified AC output is measured at the output pin.

NOTE 2: The algebraic convention, whereby the most negative value is a minimum and the most positive is a maximum, is used in this table. Negative current shall be defined as conventional current flow out of a device terminal.

NOTE 3: fC is the frequency where the gain is -3dB with respect to the input signal. f_{CLK}=100kHz, DIVIDER RATIO pin at V+, C_L=0.01µF and RL=25.78kΩ.

NOTE 4: The external or driven clock frequency is divided by either 1, 2, or 4 depending upon the voltage at the DIVIDER RATIO pin. When the DIVIDER RATIO pin=V+, the ratio=1; when the DIVIDER RATIO pin = GND, the ratio=2; when the DIVIDER RATIO pin =V-, the ratio = 4.

Package	ORDERING	INFORMATION:	SMD Number
8pin CERDIP	01	MXL1062MJ8/883B	5962-9159501MPA
8pin CERDIP	02	MAX280MJA/883B	5962-9159502MJA

	8 pin CERDIP		
1	FB	5	COSC
2	AGND	6	V+
3	V-	7	OUT
4	Divider Ratio	8	BOUT

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.