Series M15

Surface Mount TCXO

MIL-PRF-55310D, class B , class S
Stratum 3 Timing Source
10MHz to 200MHz Frequency Range
Ultra Low Jitter and Phase Noise: -135 dBc/Hz @ 1KHz
Low Power: <135mW typical

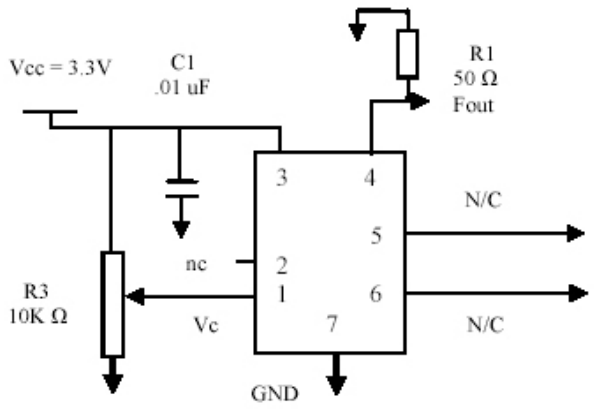
Applications

- **Telecommunication Systems**
- **Instrumentation**
- **Data Communications**
- **GPS**
- **Military/Space**

Part Numbering Example: M150DEB - XX.XXXX M

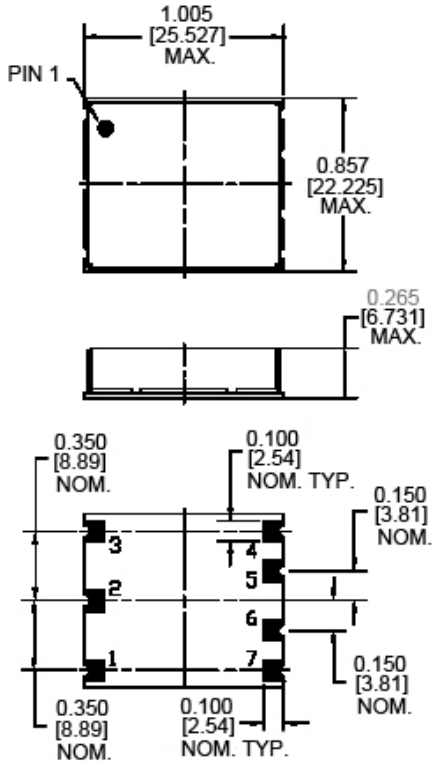
M15		D	E		M	XX.XXXXM
SERIES	OUTPUT	OPERATING TEMP.	VOLTAGE	STABILITY	GRADE	FREQUENCY
	0=Sinemave T=TTL/HCmos	D = -20 ℃ to 70 ℃ G = -40 ℃ to 85 ℃	A= 5.0V E= 3.3V	Blank= ±0.50ppm 2 = ± 2.5 ppm 1 = ± 1.0 ppm	I = Industrial Std M= MIL-STD-883B B= MIL-PFR-55310D	10.000 ~200.000 MHz

Connection Diagram



Pin #	Connection
1	Vc
2	N/C
3	Vcc
4	Fout
5	N/C
6	N/C
7	GND

Mechanical Outline



Environmental and Mechanical

Parameter	Specification
Mechanical Shock	Per MIL-STD-202, Method 213, Condition E
Thermal Shock	Per MIL-STD-883, Method 1011, Condition A
Vibration	Per MIL-STD-883, Method 2007, Condition A
Soldering Conditions	260°C for 10s max
Hermetic Seal	Leak rate less than $5x10^{-8}$ atm.cc/s of helium (crystal only)

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Electrical Specifications 1

Parameter	Symbol	Condition	Min	Typ	Max	Unit	Note
Input Current	Icc				40	mA	
Load	AC-coupled 50 Ohm						
Output Power		Into 50 Ohm	8	10.5		dBm	
Start up time				2	10	ms	
Phase Jitter		12KHz to 20MHz		0.15	.4	ps	
SSB Phase Noise		100Hz 1KHz 10KHz 100KHz		-110 -135 -154 -160		dBc/Hz	@ 100 MHz
Setability					0.1	ppm	
Setability Voltage			1.3		1.7	V	

Electrical Specifications 2

Parameter	Symbol	Condition	Min	Typ	Max	Unit	Note
Frequency Range	F		10		200	MHz	
Frequency Stability	ΔF/F	Vs. Operating Temperature D:-20°C to +70°C G:-40°C to +85°C			±0.28 ±0.37	ppm	
		Overall conditions including aging 20 years			±4.6	ppm	
Operating Temperature Range	Ta		-20° -40°		+70° +85°	°C	*Order Code D* *Order Code G*
Output		Signal	SINE \ HCMOS optional				
Supply Voltage	Vcc		3.15	3.30	3.45	V	
Voltage Control	Vc		0		3.3	V	
Input Impedance			10K			Ω	
APR			± 5			ppm	
Deviation slope		*Monotonic positive*					
Linearity			-10		+10	ppm/V	
Modulation BW			10			Hz	3dB BW
Storage Temperature	Ts		-55		105	°C	