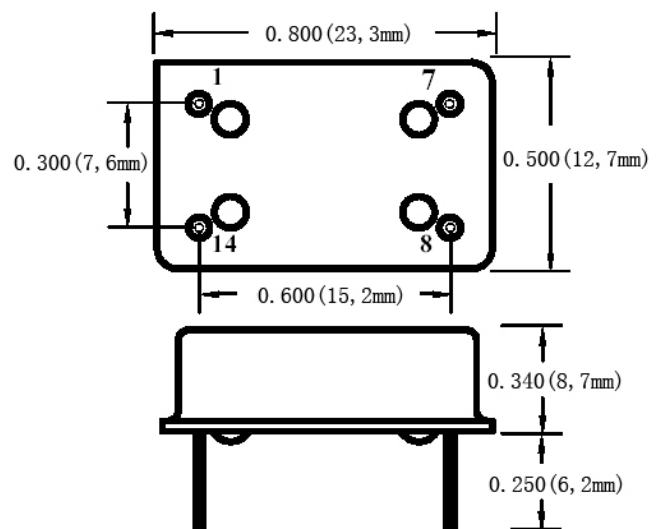


M Series Micro-miniature OCXO

Product Data Sheet

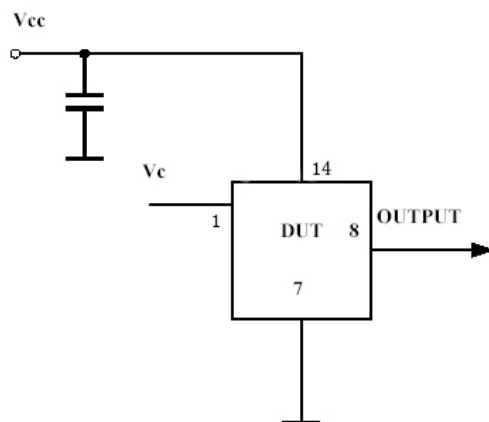
Features

- Low Cost DIL 14 package
- High Vacuum Sealed Crystal
- Low Power Consumption (<500mW)
- Fast Warm-up Time (1 minute)
- Stratum3 or better Stability
- Low Aging < 3 ppm over life
- Very Low Phase Noise (-160dBc/Hz TYP)
- HCMOS/TTL output
- 8 MHz to 160 MHz Frequencies Available
- Voltage Control Optional



Applications

- Telecommunications
- Data Communications
- Instrumentation



M Series Micro-miniature OCXO

Specifications:

Parameter	Symb	Condition	Min	Typ	Max	Unit	Note
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Absolute Maximum Ratings

Input Break Down Voltage	V _{cc}		-0.5		7.0	V	
Storage Temp.	T _s		-55		125	°C	
Control Voltage	V _c		-1		6	V	

Electrical

Frequency	F		8	10.000	160	MHz		All parameters for 10 MHz
Frequency stability	.ΔF/F	vs. Temp.		±100	±280	ppb	See chart below	
		vs. Supply		10	50	ppb/V		
Aging		per day		5E-9			after 30 days	
		first year		3E-7				
		15 years			3E-6			
Allan Variance		.1s to 100s		5E-11				
Calibration		No voltage control			± 2	ppm		
V _{cc} sensitivity				5E-8/V				
Load sensitivity		For 10% change			5E-8			
SSB Phase Noise		10 Hz		-90		dBc/Hz		All parameters for 10 MHz
		100 Hz		-120				
		10 KHz		-160				
Retrace		After 30 minutes			±50	ppb		
G-sensitivity		worst direction			±2.0	ppb/G		
Input Voltage	V _{cc}		4.75	5.0	5.25	V	3.3V±5% optional	
Input Current	I _{cc}	steady state, 25°C		100/150	120/180	MA	5V/3.3 supply	
		steady state, -30°C		180/250				
Load		start-up current		500/600				
Warm-up time	τ	to 0.3 ppm accuracy		1	2	min		
Output Waveform		3.3V HCMOS/TTL compatible						
Control voltage	V _c		0		4.0/2.8	V	5V/3.3 supply	
Pull range		from nominal F	±10			ppm		
Deviation slope		Monotonic, posit		5		ppm/V		
Setability	V _{c0}	@25°C, F _{nom} .	1.0/0.8	2.0/1.4	3.0/2.2	V	5V/3.3 supply	

Environmental and Mechanical

Operating temp. range	-30°C to 70°C Standard, Other options – see chart below
Mechanical Shock	MIL-STD-883, Method 2002, Test Condition B
Vibration	MIL-STD-883, Method 2007, Test Condition A
Soldering Conditions	Leads Temperature 260°C, for 10s, Max
Hermetic Seal	MIL-STD-883F, Method 2014

Electrical Connections

Pin Out	Pin 1- V _c or N/C; Pin 7- Case, GND; Pin8 – Output; Pin 14 - V _{cc}
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Creating a Part Number

