



Dynamic Engineers Inc.

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OCXO5050Z-10MHz-C-V

+5V Superior Allan Deviation OCXO

Features and Benefits

- Less than $\pm 1E-12$ Allan deviation for $\tau=1$ second
- Less than ± 1 ppb stability over $-40^{\circ}C$ to $+85^{\circ}C$
- Rugged 50 x 50 mm enclosure

Typical Applications

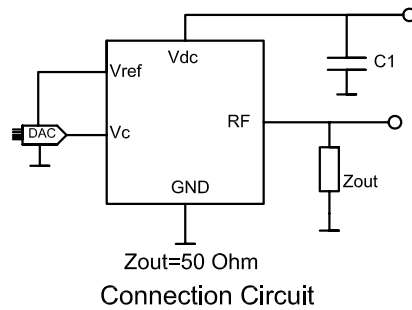
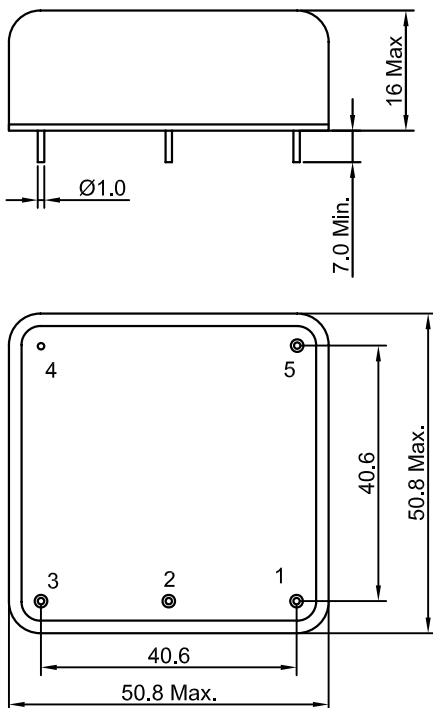
- Ideal clock for high performance SATCOM ground stations
- Test Instrument reference oscillator
- Clock for high performance synthesizers

Description

Use of low noise resonator processing techniques to deliver ultra-high Q 10 MHz SC-cuts which are needed to offer superior close-in noise / Allan deviation performance OCXO's.

Mechanical Drawing & Pin Connections

Drawing No: MD170010-1



Pin Connections:

Pin#	Symbol	Function
1	Vc	Control Voltage
2	Vref	Reference Output (4.5V)
3	RF Out	RF Output
4	GND	Ground
5	Vdc	Supply Voltage

Unit in mm
1mm = 0.0394 inches



OCXO5050Z-10MHz-C-V

Oscillator Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Nominal Frequency	f ₀		10.000000			MHz	
Waveform		+3dBm ±1 dBm	Sine wave				
Output Load		±5%		50		Ω	
Power Supply							
Supply Voltage	V _{CC}	±5%		+5		V	
Warm-up Time for <±2 x 10 ⁻⁸	t _{up}	@+25°C		<3		min	
Current Consumption				<1500		mA	
				<500		mA	
Frequency Control							
Frequency Pulling Range		Positive slope		>±0.4		ppm	
Electronic Frequency Control (EFC)			0		+4.5	V	
Reference Voltage Output	V _{ref}			+4.5		V	
Frequency Stability							
Vs. Operating Temperature Range		Over -40°C ~ +85°C		±1		ppb	
Vs. Supply Voltage Change		±5%		±0.5		ppb	
Vs. Load Change		±5%		±0.5		ppb	
Aging	Per Day	After 30 days of operation		±1		ppb	
	1 st year			±30		ppb	
Short term Stability (Allan deviation)		Tau = 1s		0.001		ppb	
Phase Noise @ 10 MHz carrier frequency		1 Hz		<-95		dBc/Hz	
		10 Hz		<-125			
		100 Hz		<-145			
		1 kHz		<-150			
		10 kHz		<-155			
Harmonics Suppression				>30		dBc	
Operating Temperature	-40°C to +85°C						
Storage Temperature	-55°C to +105°C						

Phase Noise @ 10 MHz carrier frequency

