



Features and Benefits

High stability up to ± 5 ppb over -30°C to $+70^{\circ}\text{C}$
 Very low phase noise up to -150dBc/Hz @ 10KHz
 Low aging up to ± 0.5 ppb/day
 10MHz frequency

Typical Applications

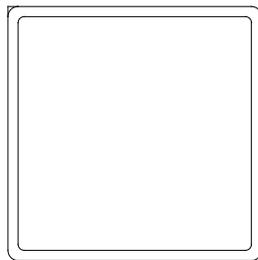
Stratum 3E clock systems
 Cellular Base Station
 Microwave Applications
 Radar Reference
 Instrumentation

Description

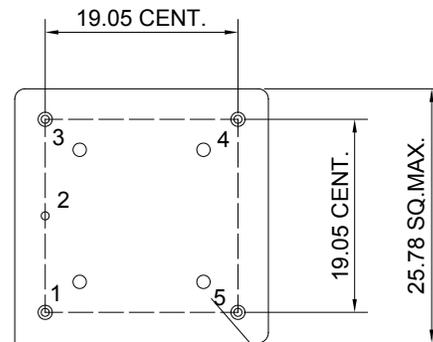
A customized high stability OCXO with low phase noise technology for optimal performance.

Mechanical Drawing & Pin Connections

Drawing No: MD160042-1

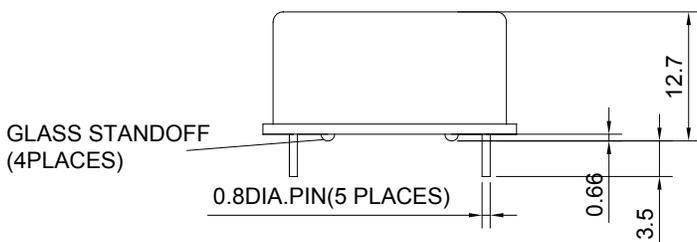


VIEW FROM TOP



VIEW FROM BOTTOM

NUMBERS FOR REFERENCE ONLY
 (NOT STAMPED ON UNIT)



Pin	Signal
1	R.F. OUTPUT
2	0 VOLTS&CASE
3	VCO INPUT
4	REFERENCE VOLTAGE
5	+V Supply

Unit: mm
 1mm=0.039inch



Specifications

Output (PIN = "RF OUTPUT")						
Parameter	Min.	Typ.	Max	Unit	Test Condition	
Frequency Range		10.000000		MHz		
Initial Accuracy	-0.1		+0.1	ppm	@ +25°C ±1°C After turn on power 15 ±1 minutes ≤ 90 days following date code VCO input at Center Voltage ±0.001V	
Waveform	Sine wave					
Level	+6	+8	+10	dBm		
Load		50		Ω		
Harmonics			-30	dBc		
Spurious			-60	dBc		
Input Power (PIN = "+VDC")						
Parameter	Min.	Typ.	Max	Unit	Test Condition	
Voltage	+4.75	+5.0	5.25	V		
Current			800	mA	@ turn on	
Steady State			1.3	W	@ +25°C	
Reference Voltage (PIN = "REFERENCE VOLTAGE")						
Parameter	Min.	Typ.	Max	Unit	Test Condition	
Voltage	+3.8	+4.0	+4.2	V	Over temperature range -30°C to +70°C	
Load	9			kΩ		
Frequency Stability						
Parameter	Min.	Typ.	Max	Unit	Test Condition	
Ambient	±5			ppb	Referenced to 25°C	
	-30°C to +70°C			°C		
Aging	-0.5		+0.5	ppb	Per day, at time of shipment	
	Daily	-0.5	+0.5	ppb	After 30 days	
	Yearly	-50	+50	ppb		
	10 years	-0.3	+0.3	ppm		
Voltage	-0.5		+0.5	ppb	±5% change	
Short Term			0.05	ppb/s	Root Allan variance	
Load	-0.5		+0.5	ppb	±5% change	
Warm-up	-10		+10	ppb	In 10 minutes at +25°C ±1°C	Referenced to 1 hour
Phase Noise						
@ 1Hz		-95	-90	dBc/Hz		
@ 10Hz		-125	-120			
@ 100Hz		-140	-135			
@ 1KHz		-148	-145			
@ 10KHz		-152	-150			
Electrical Frequency Adjustment (PIN = "VCO INPUT")						
Parameter	Min.	Typ.	Max	Unit	Test Condition	
Tuning Range			-0.5	ppm	VCO @ min. voltage	Referenced to frequency at nominal center voltage
	+0.5			ppm	VCO @ max. voltage	
Control Voltage	±5			V		
Slope	Positive					
Center Voltage		+2.5		V	Note: When not connected, VCO INPUT is internally held at this voltage	
Linearity	-10		+10	%		
Input Impedance	100			kΩ		



Environmental		
Parameter	Reference Standard	Test Condition
Operating temperature range	-30°C to +70°C	Output maintained over this temperature range. Other requirements of this specification may not be met when operating outside the specified temperature range
Storage temperature range	-55°C to +105°C	
Humidity	MIL-STD-202, Method 103 Test Condition A	95% RH @ +40°C, non-condensing, 240 hours
Shock (non-operating)	MIL-STD-202, Method 213, Test Condition J	30g, 11ms, half-sine
Vibration (non-operating)	MIL-STD-202, Method 201	0.06" Total p-p, 10 to 55Hz

Please contact Dynamic Engineers Inc. for further details.