



### Features and Benefits

- 160-500MHz Frequency Range
- 12V Supply voltage
- Sinewave Output waveform
- 500ppb Temperature Stability
- 36x27x20mm Size
- Better than 160dbc/Hz @ noise floor

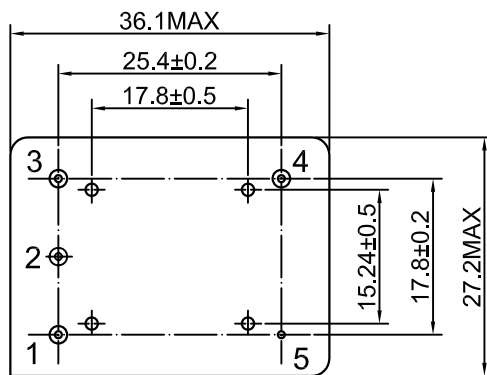
### Typical Applications

- Cellular Base Stations
- Instrumentation
- Microwave Applications
- Stratum 3E clock systems
- Radar reference

### Mechanical Drawing & Pin Connections

Drawing No: MD140062-\*

Bottom View



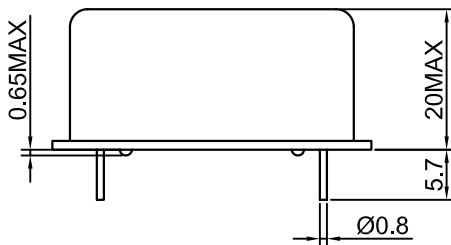
Pin Connections:

Pin	Symbol	Function
1	Vc	Control Voltage(EFC)
2	N.C.	No Connection
3	Vs	Supply Voltage
4	RF OUT	RF Output
5	GND	Ground

Unit in mm

1mm = 0.0394 inches

Side View





## Specifications

Oscillator Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Frequency	F <sub>nom</sub>		160		500	MHz	
<b>RF Output</b>							
Signal Waveform			Sinewave				
Load	R <sub>L</sub>	±5%	50			ohm	
Output power			11	13	15	dBm	
Harmonics				-50	-40	dBc	
Sub-harmonics				-60	-50	dBc	
Spurious					-90	dBc	
<b>Power Supply</b>							
Supply Voltage	V <sub>cc</sub>		11.4	12	12.6	V	
Warm-up Time	T <sub>up</sub>	at +25°C to Δf/f=1e-7			5	min	
Power Consumption		Steady state, +25°C			250	mA	
		Warm-up			500	mA	
<b>Frequency Adjustment Range</b>							
Electronic Frequency Control (EFC)			±1	±2		ppm	
EFC voltage	V <sub>e</sub>		1	5	9	V	
EFC Slope			positive				
EFC Input Impedance			100			kΩ	
<b>Frequency Stability</b>							
Versus Operating Temperature Range					±500	ppb	
Initial Tolerance		+25°C, V <sub>c</sub> =5V			±200	ppb	
Versus supply voltage		±5% change			±10	ppb	
Versus load		±5% change			±10	ppb	
G-Sensitivity				0.5		ppb/g	
Aging Per Day		after 30 days of operation		±1	±2	ppb	
Aging 1 <sup>st</sup> Year				±100	±200	ppb	
SSB Phase noise@250MHz		@10Hz			-95	dBc/Hz	
		@100Hz			-125	dBc/Hz	
		@1KHz			-150	dBc/Hz	
		@10KHz		-162	-160	dBc/Hz	
		@>=100KHz		-164	-160	dBc/Hz	
<b>Absolute Maximum Ratings</b>							
Supply Voltage V <sub>s</sub>		V <sub>s</sub> to GND	-0.5		V <sub>s</sub> +10%	V	
Control Voltage V <sub>c</sub>		V <sub>c</sub> to GND	-0.5		15	V	
<b>Environmental, Mechanical Conditions</b>							
Weight	40g						
Size	36.1x27.2x20 max. (mm)						
Packing	Palette						
Operation temperature	-40°C to 85°C						
Storage temperature range	-55°C to 105°C						



### Environmental Conditions

Test	IEC 60068 Part...	IEC 60679-1 Clause	MIL-STD-202G Method	MIL-STD-810F Method	MIL-PRF-55310D Clause	Test conditions (IEC)
Sealing tests (if applicable)	2-17	5.6.2	112E		3.6.1.2	Gross leak: Test Qc Fine leak: Test Qk
Solderability Resistance to soldering heat	2-20 2-58	5.6.3	208H 210F		3.6.52 3.6.48	Test Ta method 1 Test Td <sub>1</sub> method 2 Test Td <sub>2</sub> method 2
Shock	2-27	5.6.8	213B	516.4	3.6.40	Test Ea, 3 x per axis 100 g 6 ms half-sine pulse
Vibration sinusoidal	2-6	5.6.7.1	201A 204D	516.4-4	3.6.38.1 3.6.38.2	Test Fc, 30 min per axis, 1 oct / min 10 Hz – 55 Hz 0, 75 mm; 55 Hz – 2 kHz10g
Vibration random	2-64	5.6.7.3	214A	514.5	3.6.38.3 3.6.38.4	Test Fdb
Endurance tests - Aging - Extended aging		5.7.1 5.7.2	108A		4.8.35	30 days @ +85°C, OCXO @ +25°C 1000 h, 2000 h, 8000 h @ +85°C