



### Features and Benefits

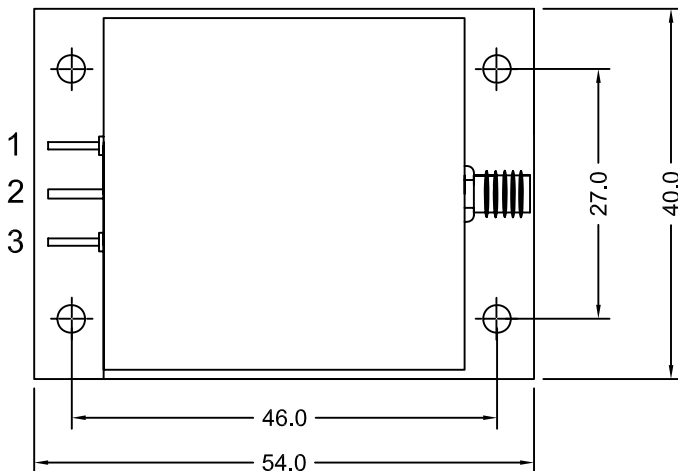
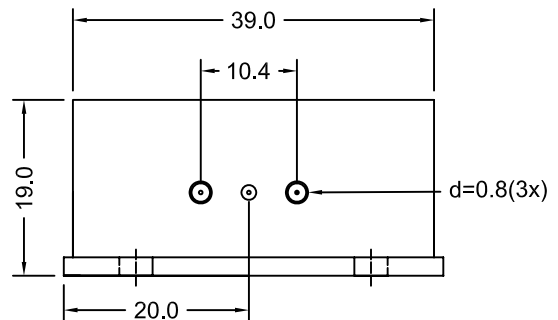
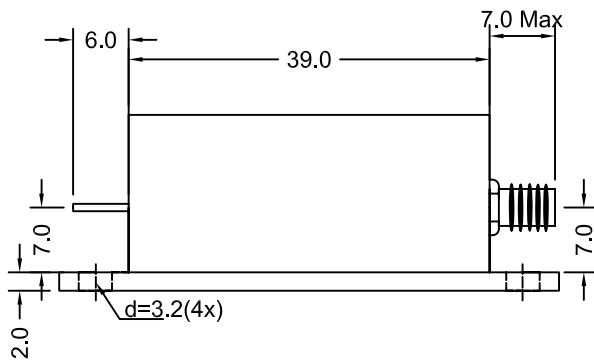
Frequency Stability: up to  $\pm 0.5$  ppm over  $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$   
Sine Wave output

### Typical Applications

Highly stable microwave LO module

### Mechanical Drawing & Pin Connections

Drawing No: MD160079-1



### Pin Connection:

Pin#	Symbol	Function
1	V <sub>c</sub>	Control Voltage
2	GND	GND
3	V <sub>s</sub>	Supply Voltage
SMA	RF OUT	RF Output

Unit in mm  
1mm = 0.0394 inches



## Specifications

Oscillator Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Nominal Frequency	F <sub>0</sub>			880		MHz	
<b>RF Output</b>							
Output Waveform			Sine Wave				
Output Level			+7	+10		dBm	
Output Load			50			Ω	
Harmonics				-45	-40	dBc	
Sub harmonics (multiples of f <sub>out</sub> /10)				-45	-40	dBc	Refer to Note 2
Spurious					-80	dBc	
<b>Power Supply</b>							
Supply Voltage	V <sub>s</sub>		11.4	12.0	12.6	V	Refer to Note 3
Current Consumption		Steady State at +25°C			80	mA	
<b>Frequency Adjustment Range</b>							
Electronic Frequency Control (EFC)			±5			ppm	
EFC Voltage	V <sub>c</sub>		0.5	2.5	4.5	V	
EFC Slope (Δf / ΔV <sub>c</sub> )			Positive				
EFC Input Impedance			100			kΩ	
<b>Frequency Stability</b>							
V <sub>s</sub> Operating Temperature Range		Over -40°C to +85°C		±0.5		ppm	
Initial Tolerance at +25°C		@ +25°C			±5	ppm	
V <sub>s</sub> Supply Voltage Change	V <sub>s</sub>	V <sub>s</sub> ±5%			±1	ppm	
V <sub>s</sub> Load change	R <sub>L</sub>	R <sub>L</sub> ±5%			±1	ppm	
Long Term Aging Per Year					±1	ppm	
Phase Noise			Please consult DEI				
<b>Environmental Conditions</b>							
Operating Temperature Range		-40°C to +85°C					
Storage Temperature Range		-55°C to +125°C					
Size		54.0 x 40.0 x 19.0 mm					
Weight		60g max.					

### Notes

1. Terminology and test conditions are according to IEC60679-1 and MIL-PRF-55310, unless otherwise stated
2. Depending on frequency multiplication factor may be lower or higher than 10
3. Other supply voltages available on request

## Absolute Maximum Ratings

Parameter	Min.	Max.	Unit	Condition
Supply Voltage V <sub>s</sub>	-0.5	V <sub>s</sub> +10%	V	V <sub>s</sub> to GND
Control Voltage V <sub>c</sub>	-0.5	6	V	V <sub>c</sub> to GND
Storage Temperature	-55	+125	°C	

## Handling and Testing

Parameter	Procedure	Condition
Electrostatic Discharge (ESD)		
THD devices	IEC60749-26	HBM 2000V
SMD devices	IEC60749-27	MM 200V
Washable	Yes	
RoHS compliant	Yes	



### 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	2-20	5.6.3	208H		3.6.52	Test Ta Method 1
Resistance to soldering heat	2-58		210F		3.6.48	Test Td1 Method 2 Test Td2 Method 2
Shock	2-27	5.6.8	213B	516.4	3.6.40	Test Ea, 3 x per axes 100g, 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 axes, 10 Hz - 55 Hz 0,75mm; 55 Hz - 2 kHz, 10g
Vibration, random	2-64	5.6.7.3	214A	514.5	3.6.38.3 3.6.38.4	Test Fdb
Endurance tests			108A			
- Aging		5.7.1			4.8.35	30 days @ 85°C, OCXO @25°C
- Extended aging		5.7.2				1000h, 2000h, 8000h @85°C