



Dynamic Engineers Inc.

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Features and Benefits

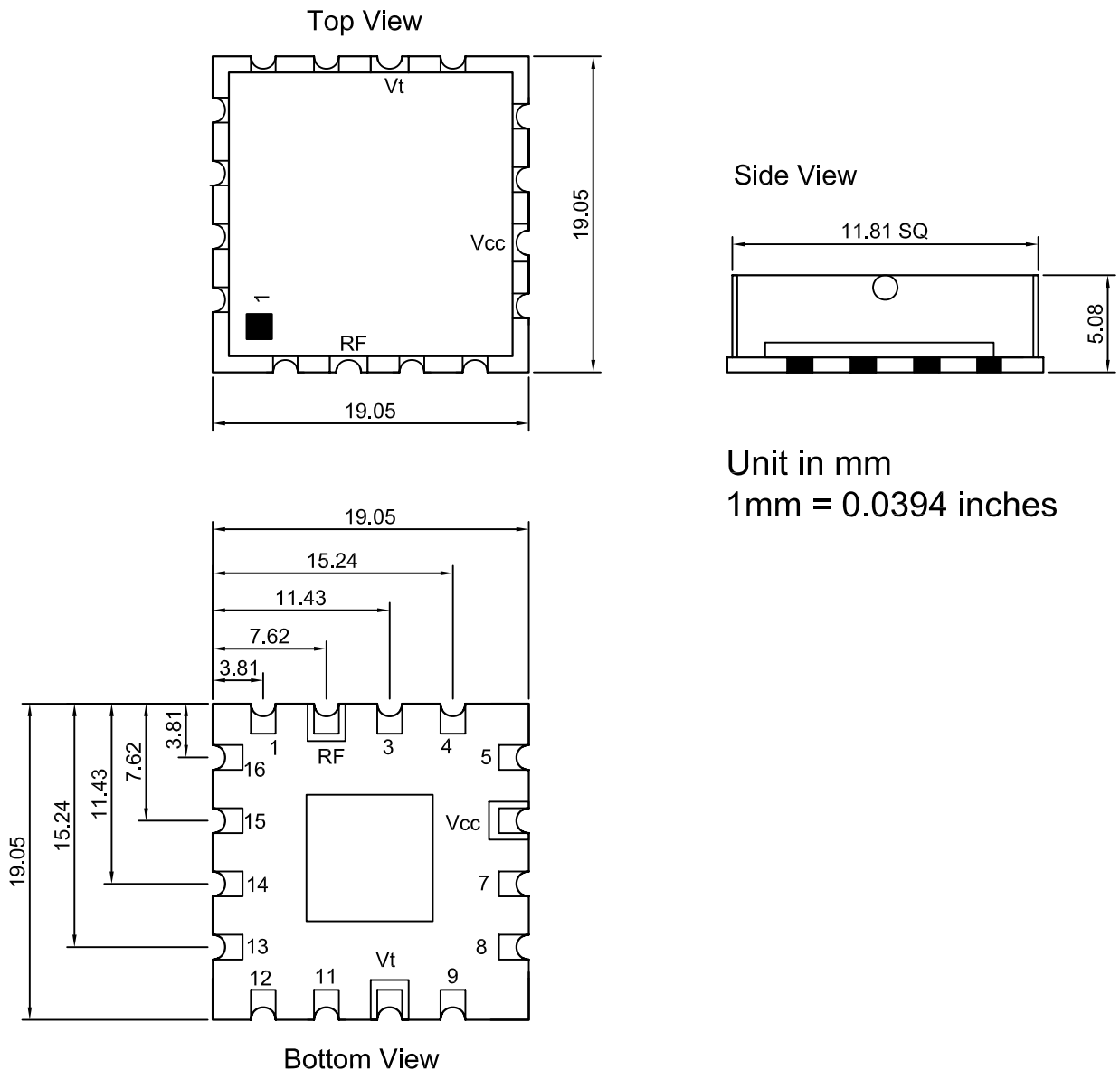
Miniature 19 x 19 mm SMD package
Low Noise over 9000 to 11000 MHz
Advanced Differential Oscillator Topology

Typical Applications

YIG-based synthesizers for SATCOM,
Microwave LO

Mechanical Drawing & Pin Connections

Drawing No: MD170027-1



Specifications (over temperature and aging of 10 years)

Parameter	Units	Min.	Typical	Max.	Note
Frequency Minimum	MHz	9000			
Frequency Maximum	MHz			11000	
Tuned Frequency Range	MHz	40	50	60	About Quiescent Frequency
Power Supply	Volts	8	-	12	Min Voltage = Min Power
Supply Current	mA		85	150	+25°C
RF Output Power	dBm	+7	+9		Standard
Output Impedance	Ohms		50		<10 dB RL
RF Output	Tin Pad	Note 1			Surface Mount Co-planar
Surface Mount Package	Tin Pad	Note 1			Bias and Control
Harmonic Spurious	dBc		-30	-20	
Other Spurious	dBc		-90	-80	
SSB Phase Noise @10kHz offset	dBc/Hz		-90		
F1 = 9000 MHz @100kHz offset			-120		
F2 = 11000 MHz @1MHz offset			-145		
@10MHz offset			-165		
Tuning Voltage	Vdc	0		10	Frequency Range / 10
Tuning Accuracy	MHz	0.1	0.2	0.5	Maximum Deviation from SL
Quiescent Error	MHz		±5		Customer Specified Q.F.
Pushing	MHz/V			0.5	AC and DC
Pulling	KHz, p-p			15	Load: 12dB _{RL} , All Phases
FM Tuning Sensitivity	MHz/V	0.7	1.0	1.3	FM Tuning Port
Tuning Port Impedance	kOhms		10		
FM 3dB Modulation BW	kHz		20		Std. Higher with < Tuning Sensitivity
Package Outline	Inches [mm]	0.30 x 0.75 x 0.75 8 x 19 x 19			T x W x L
Operating Temperature Range Normal Operation No Damage	°C	-5 -55		+55 +85	
Operating Rate of Temperature Change		10°C / minutes max			

Note 1: Tin Plated Pads for lead-free soldering to PWB. Thermal pad on bottom is to hold package during solder process.

Transient Phase Noise (Phase Hit)

The maximum instantaneous phase/frequency deviation is 10 KHz and any deviation in excess of 4 KHz shall have a maximum deviation rate of 100Hz/μsec. This specification will be met during a temperature cycle with the low temperature at -5°C and a high temperature of +55°C at a temperature ramp rate of 1°C/minute.

Microphonics

Component will be subjected to a 1 kHz sinusoid translational shake along any axis, 10G peak. The output will exhibit 1 kHz sideband spurs no greater than -75dBc from carrier and output power level should not change. Any mechanical resonance frequency below 2.5 kHz will exhibit sidebands no greater than -75dBc.