

Features

- High Performance, Low Cost
- Low Phase Noise
- Miniature SMT Package (LSM1)
- RoHS Compliant

Description

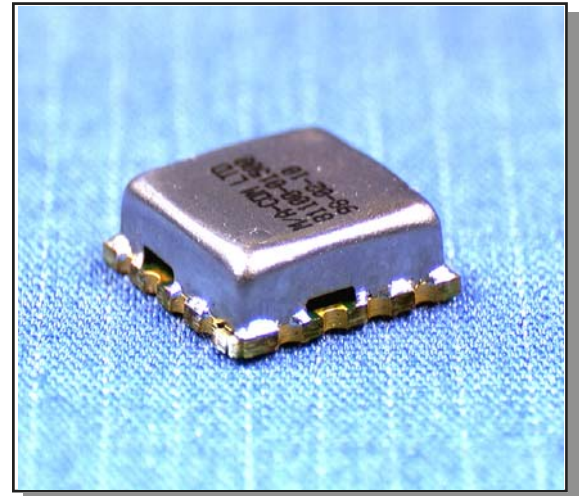
This VCO, in a SMT package, provides electrical shielding, easy PCB assembly and repeatable performance. The oscillator is designed for use in wireless base stations and other applications.

M/A-COM VCOs are manufactured in an ISO9001 certified facility, incorporating surface mount assembly and automated electrical testing. This ensures consistent electrical performance and quality over volume production quantities.

Devices are designed to function after exposure to the shock, vibration, thermal shock and moisture conditions typically encountered in base station and other infrastructure environments.

Electrical Specifications¹:

$T_A = +25^\circ\text{C}$, $Z_0 = 50\ \Omega$, $V_{CC} = 8\text{V}$.



Pin Configuration

Pin No.	Function
1	RF Output
2	V_{CC}
3	V_{tune}
4	GND

Parameter	Test Conditions	Units	Min	Typ	Max
Frequency Range	Over T_{op}^2	MHz	2200		2400
RF Output Power	Over V_{CC} and T_{op}^2	dBm	+3.0	5	+7.0
Tuning Voltage	Over T_{op}^2 Min/Max oscillating range	V V	1 0		18.0 22.0
Phase Noise	SSB at 10 kHz offset from carrier SSB at 100 kHz offset from carrier SSB at 1000 kHz offset from carrier SSB at 10 MHz offset from carrier	dBc/Hz			-98 -118 -138 -158
Tuning Sensitivity		MHz/V	12		20
Harmonic Output		dBc			-12
Spurious		dBc			-100
Frequency Pushing	$7.6\text{V} < V_{CC} < +8.4\text{V}$	MHz/V			8
Frequency Pulling	12dB RL load, all phases	MHz			15
Tuning input capacitance		pF		50	
Supply Voltage (V_{CC})	VCO oscillates	V	7.5	8	8.5
Supply current (I_{CC})		mA		39	47

1. All specification limits are indicated values @ $+25^\circ\text{C}$ and apply over F_{out} unless otherwise stated.
2. See *Absolute Maximum Ratings* for operating temperature.

VCO, SMT
2200—2400 MHz

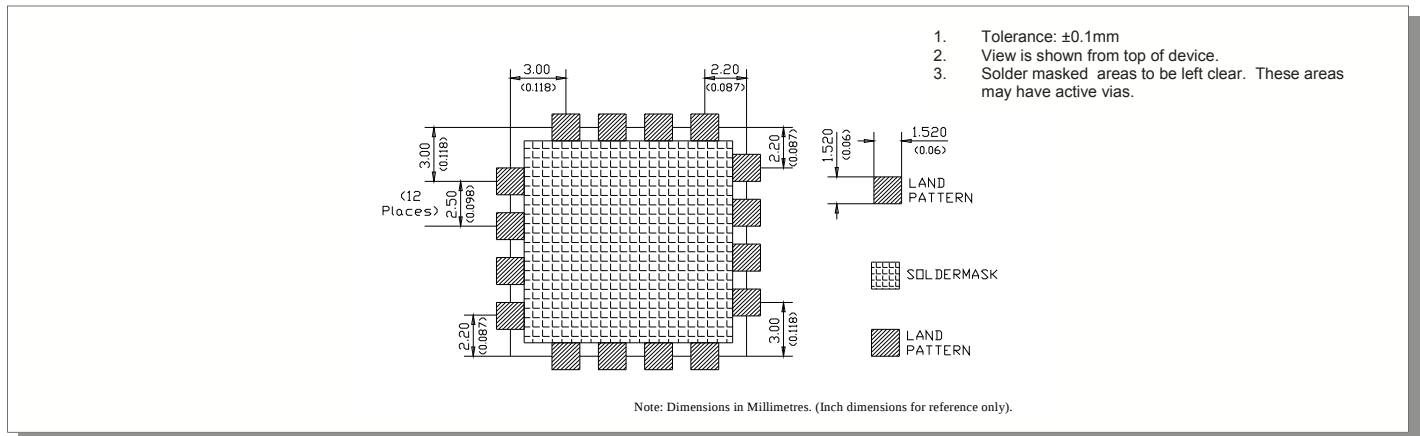
Rev. VD

Absolute Maximum Ratings $T_A = +25^\circ\text{C}$

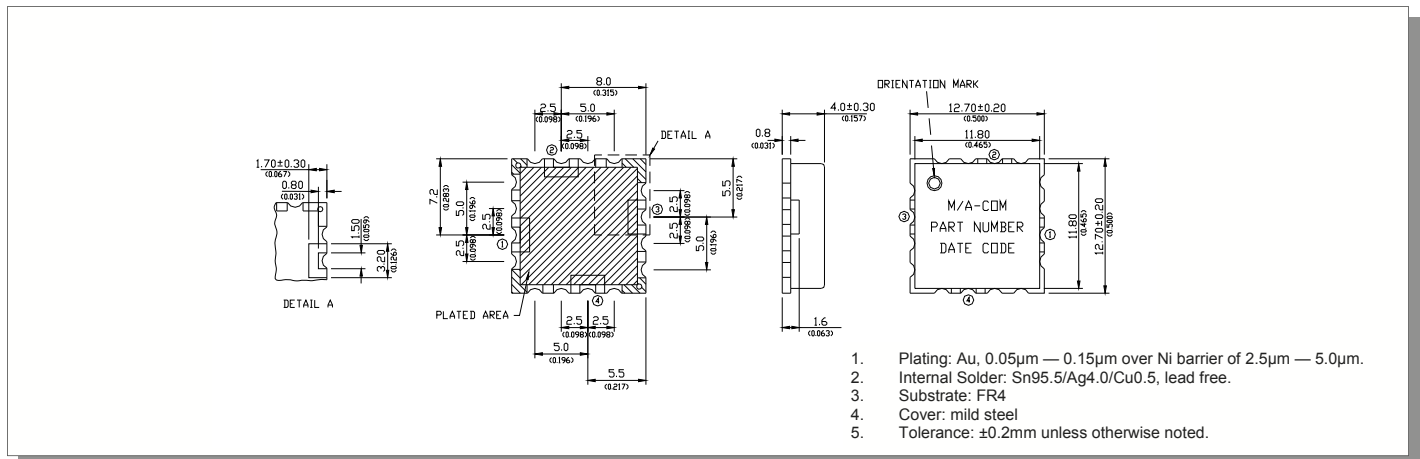
Parameter	Absolute Maximum
Supply Voltage (V_{CC})	4.5V to 9.0 V
Operating Temperature	-40°C to $+85^\circ\text{C}$
Storage Temperature	-45°C to $+120^\circ\text{C}$
Solder Assembly Temperature	See App Note M2032

1. Operation of this device above any one of these parameters may cause permanent damage.

Recommended PCB Layout



Outline Drawing



ECO History

Rev	Date	Description	By
C	18th June 2009	Update max tuning spec, harmonic and pushing specification	SC
D	15th July 2009	Update sensitivity specification	SC