

MAVC-010000-002140



VCO, SMT
2110-2170 MHz

Rev. VB

Features

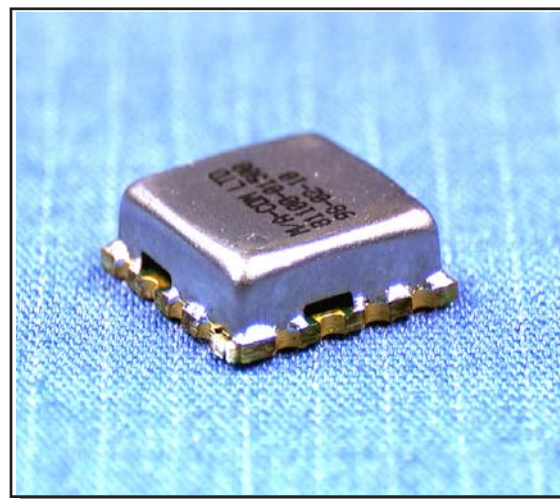
- High Performance, Low Cost
- Low Phase Noise
- Miniature SMT Package (LSM1)
- RoHS Compliant

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.



Pin Configuration

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

Electrical Specifications¹:

Z₀ = 50 Ohms, V_{CC} = 5V.

Parameter	Test Conditions	Units	Min	Typ	Max
Frequency Range	Over T _{op} ²	MHz	2110		2170
RF Output Power	Over V _{CC} and T _{op} ²	dBm	-2.0		+4.0
Tuning Voltage	Over T _{op} ²	V	+1		+4.0
Phase Noise	SSB at 10 kHz offset from carrier SSB at 100 kHz offset from carrier SSB at 1000 kHz offset from carrier	dBc/Hz		-100 -122 -141	-95 -117 -137
Tuning Sensitivity		MHz/V		30	
Harmonic Output	(Non Harmonic spurious < -70dBc)	dBc		-15	-10
Frequency Pushing	V _{CC} = +5.25V ± 0.25V	MHz/V		2.5	4.0
Frequency Pulling	1.5:1 VSWR load, all phases	MHz			6.0
Frequency Drift	Over T _{op} ²	MHz/°C		-0.18	
Tune Input Capacitance		pF			50
Supply Voltage (V _{CC})	VCO oscillates	V	+4.75	+5.00	+5.25
Supply Current (I _{CC})		mA		15	20

1. All specification limits are indicated values over the temperature range -37C to 75C.
2. See *Absolute Maximum Ratings* for operating temperature.

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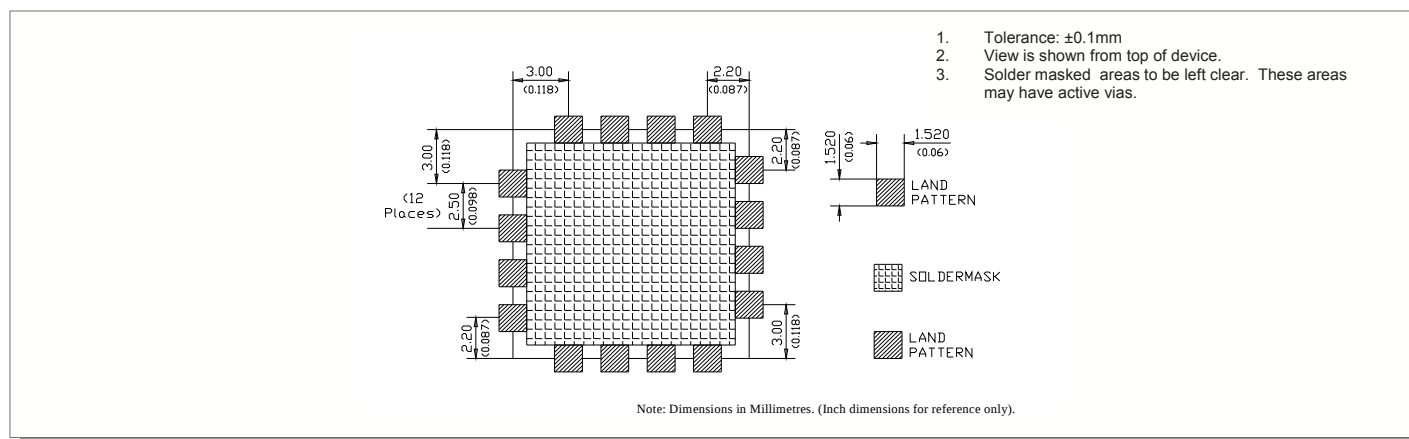
Rev. VB

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

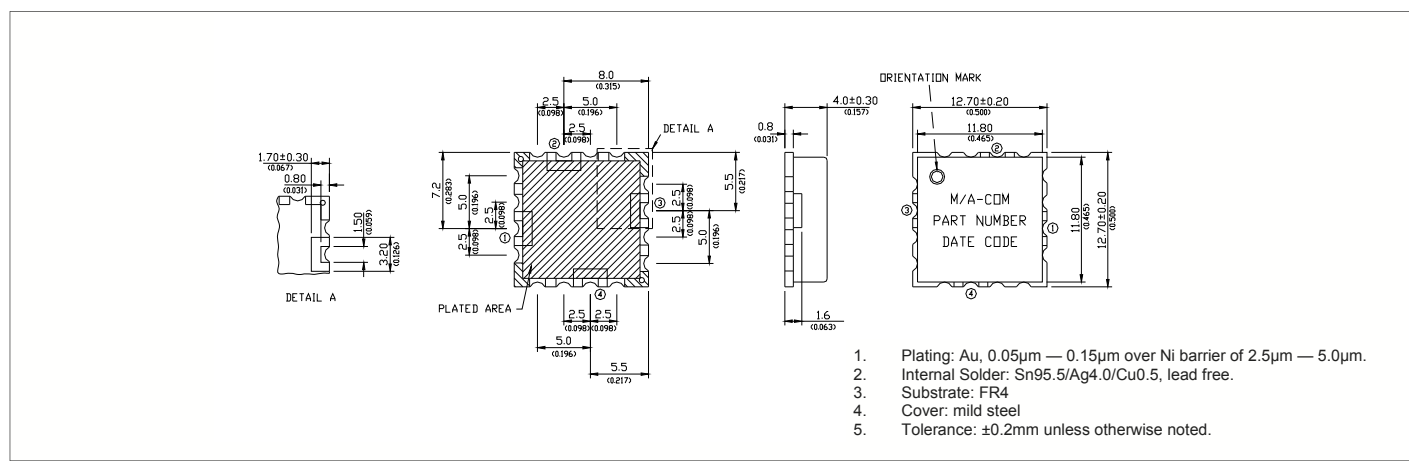
Parameter	Absolute Maximum
Supply Voltage (V_{CC})	4.5V to 5.5 V
Operating Temperature	-40°C to $+85^\circ\text{C}$
Storage Temperature	-45°C to $+120^\circ\text{C}$
Solder Assembly Temperature	See App Note M2032

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
A	19th July 2006	Created data sheet based upon MLO81169-02140	JS
B	1st Sept 2006	Updated electrical specification based upon measured data	JS

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