

VCO, SMT
2496-2690 MHz

Rev. VD

Features

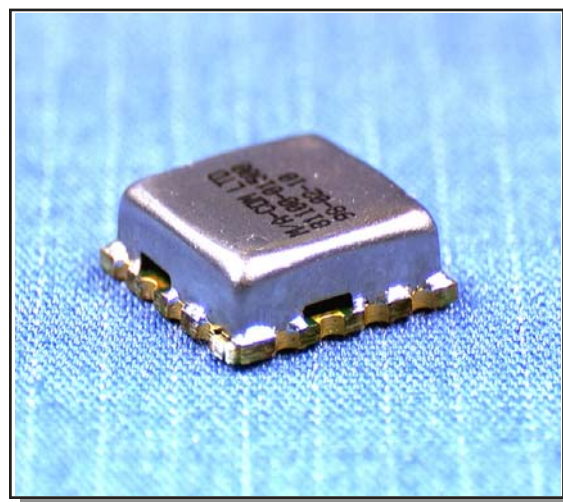
- High Performance, Low Cost
- Low Phase Noise
- Miniature SMT Package (LSM1)
- RoHS Compliant

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:

T_A = +25°C, Z₀ = 50 Ohms, V_{CC} = 5V.

Parameter	Test Conditions	Units	Min	Typ	Max
Frequency Range	Over T _{op} ²	MHz	2496		2690
RF Output Power	Over V _{CC} and T _{op} ²	dBm	+1	+3	+5
Tuning Voltage	Over T _{op} ²	V	1		18
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 -120 -140 -155
Tuning Sensitivity		MHz/V	12		20
Harmonic Output		dBc			-12
Frequency Pushing	V _{CC} = +8.0 ± 0.5V	MHz/V			8
Frequency Pulling	1.5:1 VSWR load, all phases	MHz			10
Tuning input capacitance		pF			50
Supply Current(I _{CC})				40	47
Supply Voltage (V _{CC})	VCO oscillates	V	7.5	8	8.5

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

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

Parameter	Absolute Maximum
Supply Voltage (V_{CC})	8.5 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.

Ordering Information

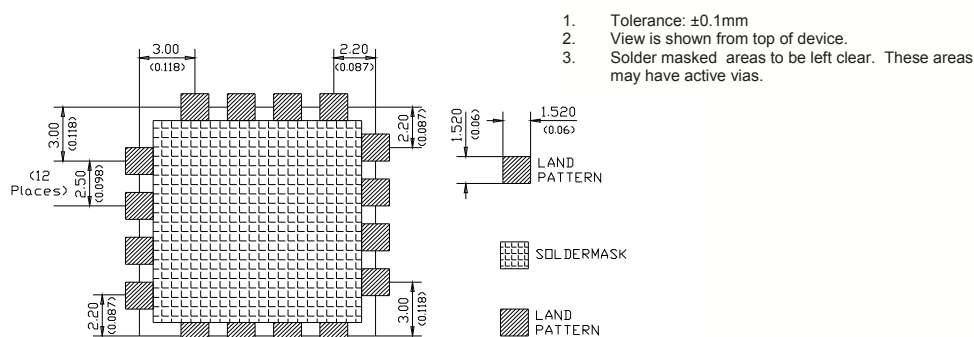
Part Number	Package
MAVC-010000-002593	Tape and Reel (500/Reel) ¹

1. See application note M513.

Environmental Specifications

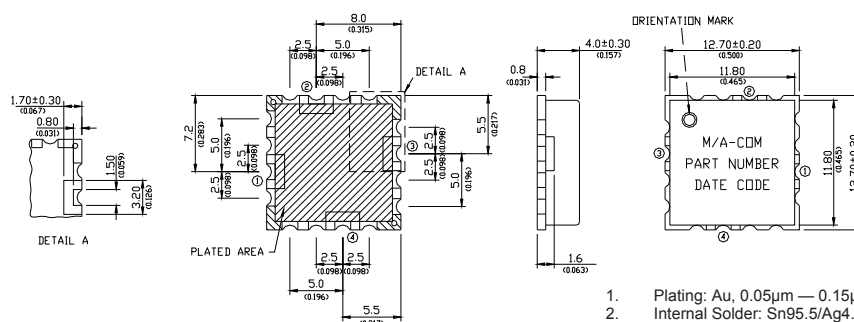
Devices are designed to function after exposure to vibration, thermal shock and moisture conditions. See *MVS Qual Report* for details of tests performed.

Recommended PCB Layout



Note: Dimensions in Millimetres. (Inch dimensions for reference only).

Outline Drawing



1. Plating: Au, $0.05\mu\text{m}$ — $0.15\mu\text{m}$ over Ni barrier of $2.5\mu\text{m}$ — $5.0\mu\text{m}$.
2. Internal Solder: Sn95.5/Ag4.0/Cu0.5, lead free.
3. Substrate: FR4
4. Cover: mild steel
5. Tolerance: $\pm 0.2\text{mm}$ unless otherwise noted.

ECO History

Rev	Date	Description	By
D	8th July 2009	Update maximum current specification	SC