

Surface Mount TO8 Voltage Controlled Oscillators

**MAVCML Series
V2**

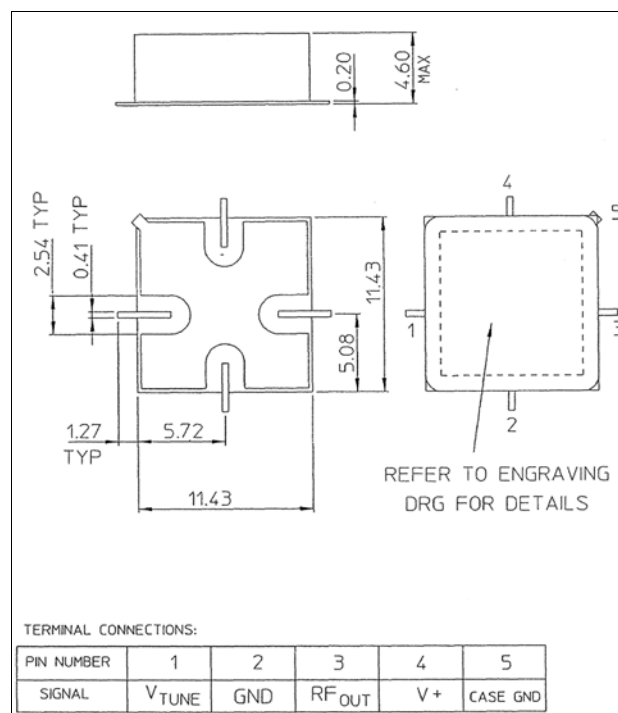
Features

- Extremely Linear Tuning
- High Tuning Speed
- Low Phase Noise
- Surface Mount PCB
- Hermetically Sealed
- Suitable for High Reliability Applications
- Custom Designs Available

Primary Applications

- Radar Receivers
- Communications Systems
- Countermeasure Systems
- Satellite Systems

VCOs have a wide variety of applications where very fast tuning speeds are required. This feature along with our superior output power flatness performance is critical for requirements in radar receivers or for rapid generation of jamming signals in ECM transmitters. When high frequency stability is required for radar, communications synthesizers or frequency converters, these VCOs may be integrated into phase lock loop circuitry. Low phase noise performance of the VCO, with our highly linear tuning, simplifies loop filter design and enables the designer to achieve superior synthesizer performance. These VCOs can be qualified for high reliability and military requirements. The accompanying table is an example of our standard VCO designs. A wide range of custom designs are also available with output frequencies to 6 GHz. Please contact the factory to discuss your requirements.



All dimensions are in mm. +/- 0.1
Standard finish : Gold Plate.

Description

These designs utilize silicon bipolar devices as the negative resistance generator. The frequency of operation is determined by a varactor diode that serves as a voltage variable capacitor. Silicon hyperabrupt varactors offer the lowest phase noise performance. Careful selection of the varactor diodes manufactured in-house provide linear monotonic tuning characteristics requiring only simple external driver circuits.

This range of VCOs is constructed using discrete chip device integrated onto a conventional alumina substrate or on a Glass Microwave Integrated Circuit (GMIC™). This is packaged into standard outline TO-8 SMT packages. These packages are hermetically sealed using resistance weld techniques. This compact rugged construction allows for simple installation on either through hole or surface mount PCB, and finds a wide range of applications in demanding military, hi-rel and commercial systems.

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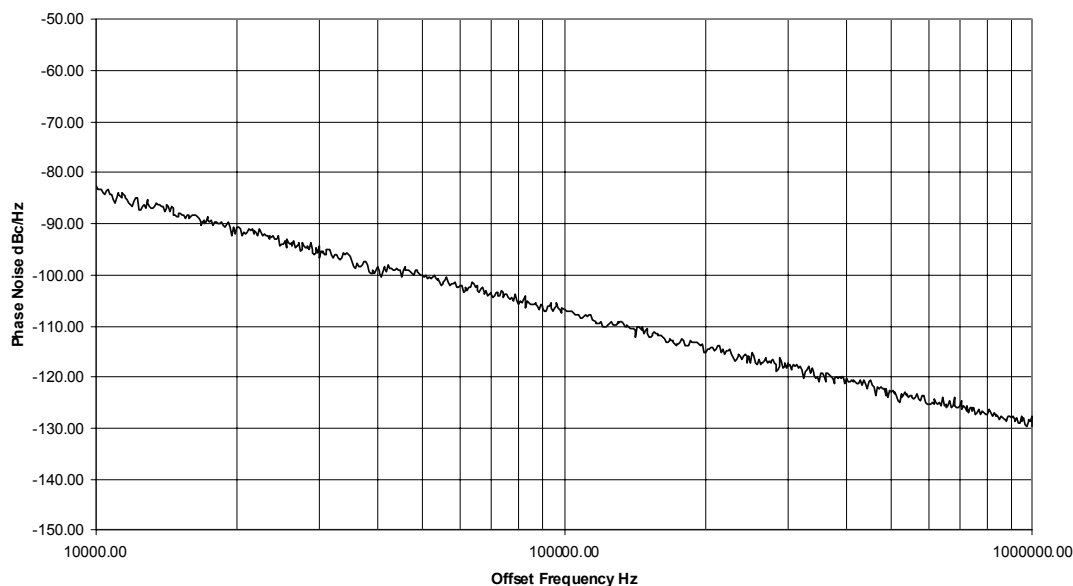
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Electrical Performance

(Applies over the output frequency range @ +25 °C, output load impedance of 50 ohms. Unless otherwise stated limits & conditions are indicated values.)

VCO Part No.	Frequency	Tuning Voltage	Phase Noise	Power	Harmonics	Temp Range	Power Supply
	GHz		+25 °C (dBc/Hz)	dBm (min)	dBc (max)	(Operating)	V & mA
MAVCML0027	0.60-0.86	1V - 13V	-113@ 100 KHz	+3.5+/-3.5	-15	-35 to +85 °C	+5V 18mA
MAVCML0032	2.85-4.35	0V - 15V	-100 @ 100 KHz	+10+/-2.0	-10	-40 to +85 °C	+15V 125mA
MAVCML0033	3.02-4.41	4V - 11V	-98@ 100 KHz	+12+/-1.0	-13	-40 to +85 °C	+15V 120mA
MAVCML0035	4.23-4.37	1V-7V	-100 @ 100 KHz	+15+/-2.5	-25	-55 to +75 °C	+10V 130mA
MAVCML0036	4.51-5.74	1V - 13V	-98 @ 100 KHz	+12.5+/-1.5	-15	-35 to +85 °C	+5V 100mA

MAVCML0035 Phase Noise, Carrier = 4.3 GHz



MAVCML0035 Phase Noise SMT08 VCO