

# 10 – 20 GHz VOLTAGE TUNED OSCILLATOR

VTO-15000-67L

## Overview:

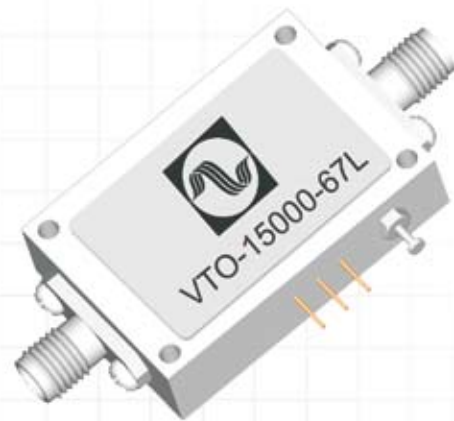
Phase Matrix's VTO-15000-67L is a low-noise fundamental voltage-controlled source, which covers 10 to 20 GHz and can be used as a clock in high-speed systems or as a local oscillator or transmitter oscillator in high-frequency communications and radar systems or in wideband instrumentation applications. This low-noise source tunes over an octave from 10 to 20 GHz of frequency range. A GaAs MMIC buffer amplifier is used to provide the necessary power output and load isolation of the oscillator.

## Features:

- Operating frequency 10 to 20 GHz
- Output power 13 dBm typ.
- Tuning voltage 0 to 22 V
- Low power consumption
- Phase noise < -90 dBc/Hz @ 100 kHz
- Tuning sensitivity ratio 2:1 typ.

## Applications:

- Low-noise X/Ku-band source
- Instrumentation



## Specifications

### ABSOLUTE MAXIMUM RATINGS

PARAMETER	UNITS	RATING
Positive Supply Voltage	V	+5.5
Tuning Voltage	V	0 to +25
Operating Temperature	C	-10° to +85°
Storage Temperature	C	-40° to +125°

### ELECTRICAL SPECIFICATIONS (0° to +70° C)

PARAMETER	UNITS	MIN.	TYP.	MAX.
Frequency $f_0$	GHz	10		20
Vt @ 10 GHz	V	0		
Vt @ 20 GHz	V			22

### ELECTRICAL SPECIFICATIONS (continued)

PARAMETER	UNITS	MIN.	TYP.	MAX.
Output Power (50 ohms load)	dBm	10	13	
Tuning Sensitivity	MHz/V	250		750
Tuning Sensitivity Ratio			2:1	
Modulation Bandwidth	MHz	20		
Output Return Loss	dB	10	12	
Second Harmonic (below carrier)	dBc		-20	
Spurious Output (below carrier)	dBc			-60
Phase Noise @ 100 kHz from $f_0$	dBc/Hz		-90	-83
Phase Noise @ 1 MHz from $f_0$	dBc/Hz		-115	
Freq. Drift over Temp.	MHz			100
Pulling Figure (12 dB Return Loss)	MHz		10	

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Model VTO-15000-67L

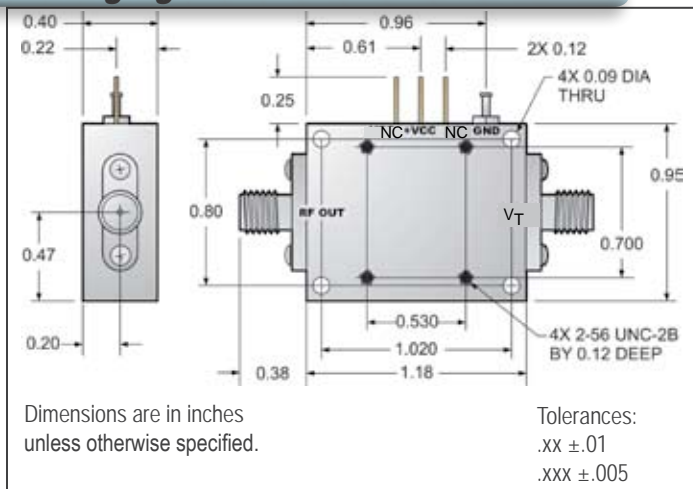
Specifications and ordering information subject to change without notice.

## Specifications (continued)

### ELECTRICAL SPECIFICATIONS (continued)

PARAMETER	UNITS	MIN.	TYP.	MAX.
Pushing Figure ( $\pm 0.25$ V)	MHz		50	
Positive Supply Voltage	V	+4.85	+5	+5.15
Positive Supply Current	mA		225	250

## Packaging Information



L = Connectorized

## Ordering Information

### ORDERING INFORMATION

DESCRIPTION	SPECIFICATION
Model No.	VTO-15000-67
Packaging Options	L

#### Notes:

1) See our *catalog* for information about other microwave components and sub-assemblies.

Data sheet PN: DS\_VTO-15000-67L Rev. 1

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