Voltage Tuned Oscillator

Phase Matrix, Inc.™
Technology You Can Count On

VTO-10000-01T

Features

- **Operating frequency: Selectable between 9 GHz and 11 GHz**
- **Output Power (50 Ω Load): 10 dBm Minimum**
- **Modulation Sensitivity: 15 MHz to 30 MHz/V**
- **Tuning Voltage: 0.5 to 4.5 Volts**
- **Low Phase Noise: < -80 dBc/Hz @10 KHz**
- **Low Power Consumption**
- **Low Frequency Drift over 0°C to +75°C < 50 MHz**
- **0.5 D x 0.18 H inches**

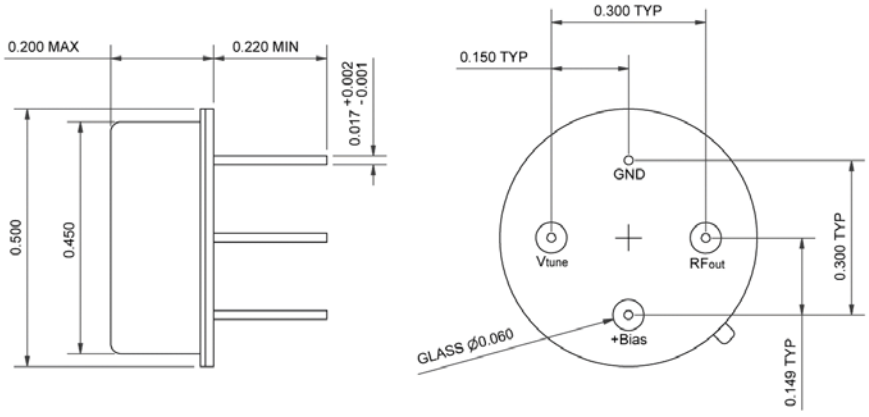
Applications

- **Telecommunications**
- **Digital Radios**
- **Low Noise Source**

General Description

The VTO-10000-01T provides a fundamental, low jitter source for applications in telecommunications, military and industrial microwave systems and sub-systems requiring low noise and narrow band performance . The oscillator uses a high performance low noise Silicon Bipolar transistor in conjunction with a linear tuning silicon varactor diode to provide the necessary tuning capability. A GaAs MMIC buffer amplifier is used to achieve necessary power output and load isolation.

Package Mechanical Dimensions (Inches)



VTO-10000-01T Absolute Maximum Ratings

Parameter	Units	Ratings
Positive Supply Voltage	V	6
Tuning Voltage	V	12
Operating Temperature	°C	-20 to 85
Storage Temperature	°C	-40 to +125

VTO-10000-01T Summary Electrical Specifications, 0° C to 75° C

Parameter	Units	Min	Typ	Max
Frequency Range for selecting Single Frequency	MHz	9000	10000	11000
Vt	V	0		4.5
Output Power in to 50 Ω	dBm	10		14
Tuning Sensitivity*	MHz / V	15		30
Modulation Bandwidth	MHz	20		
Output Return Loss	dB	12	14	
Second Harmonic (Below Carrier)	dBc			-17
Third Harmonic (Below Carrier)	dBc			-17
Spurious Output (Below Carrier)	dBc			-60
Phase Noise @				
10 KHz from Fo	dBc / Hz		-83	-80
100 KHz from F_o	dBc / Hz		-107	-105
Frequency Drift over Temperature	MHz			50
Pulling Figure (12 dB Return Loss)	MHz			20
Pushing Figure, +/- 0.2V Supply	MHz			20
Positive Supply Voltage	V	4.85	5	5.15
Positive Supply Current	mA			100
Tuning Port Input Capacitance	pf		23	

***Frequency tuning from 0 to 4.5V will exceed variation of frequency over temperature, load and bias variations as well as aging.

Contact Factory for any changes in specifications.

Part Number Ordering Information

Part Number
VTO-10000-01T
VTO-XXXXX-01T**

**Fill in desired center frequency in MHz

For more information:
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Data subject to change

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