



# Voltage Tuned Oscillator

## VTO-10000-10T

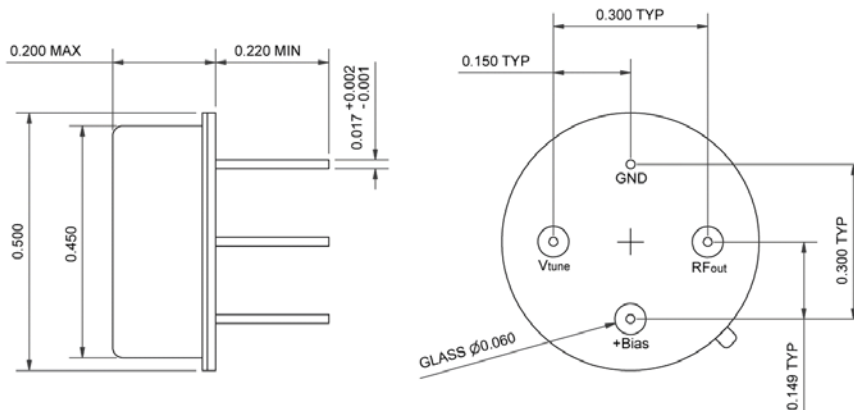
### Features

- **Operating frequency:**  
9.5GHz to 10.5 GHz
  - **Output Power (50  $\Omega$  Load):**  
7 dBm Minimum
  - **Modulation Sensitivity:**  
150 to 300 MHz/V
  - **Tuning Voltage:** 0.5 to 12 Volts
  - **Low Phase Noise:**  
< -90 dBc/Hz @100 KHz
  - **Low Power Consumption**
  - **Frequency Drift over 0°C to +75°C:** 100 MHz
  - **0.5 D x 0.18 H inches**
- **Transmitter and Receiver Subsystems for OC-192, OC-768 / STM-64, STM-256**
  - **Digital Radios**
  - **Low Noise Source**



The VTO-10000-10T provides a fundamental, low jitter source for the data re-timing in the transmitter subsystem and clock and data recovery in the receiver of the 10 Gigabit fiber optic systems. This oscillator offers a unique combination of low jitter and wide bandwidth to cover all the common FECs used in 10Gigabit systems. The oscillator uses a high performance low noise Silicon Bipolar transistor in conjunction with a hyperabrupt varactor diode to provide the tuning capability. A GaAs FET buffer amplifier is used to achieve necessary power output and load isolation.

### Package Mechanical Dimensions (Inches)



### VTO-10000-10T Absolute Maximum Ratings

Parameter	Units	Ratings
Positive Supply Voltage	V	6
Tuning Voltage	V	22
Operating Temperature	°C	-10 to 85
Storage Temperature	°C	-40 to +125

### Applications

**VTO-10000-10T Summary Electrical Specifications, 0° C to 75° C**

Parameter	Units	Min	Typ	Max
Frequency Range	GHz	9.5		10.5
Vt @ 9.5 GHz	V	0.5		
Vt @ 10.5 GHz	V			12
Output ( 50 $\Omega$ Load)				
Power	dBm	7		13
Voltage p-p	V	1.4		2.8
Tuning Sensitivity	MHz / V	150		300
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 @				
100 KHz from F <sub>o</sub>	dBc / Hz		-90	-85
10 MHz from F <sub>o</sub>	dBc / Hz			-130
Frequency Drift over Temperature	MHz			100
Pulling Figure (12 dB Return Loss)	MHz			30
Pushing Figure, +/- 0.2V Supply	MHz			20
Positive Supply Voltage	V	4.8	5	5.2
Positive Supply Current	mA			100
Tuning Port Input Capacitance	pf		23	

**Contact Factory for any changes in specifications.**

**Part Number Ordering Information**

<b>Part Number</b>
VTO-10000-10T

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