



Voltage Tuned Oscillator

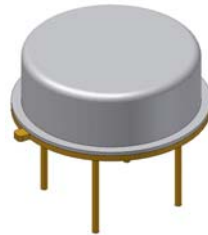
VTO-10000-T

Features

- Operating frequency:
10 GHz
- Output Power (50 Ω Load):
7 dBm Minimum
- Modulation Sensitivity:
5 to 10 MHz/V
- Tuning Voltage: 0.5 to 12
Volts
- Low Phase Noise:
< -105 dBc/Hz @100 KHz
- Low Power Consumption
- 0.5 D x 0.18 H inches

Applications

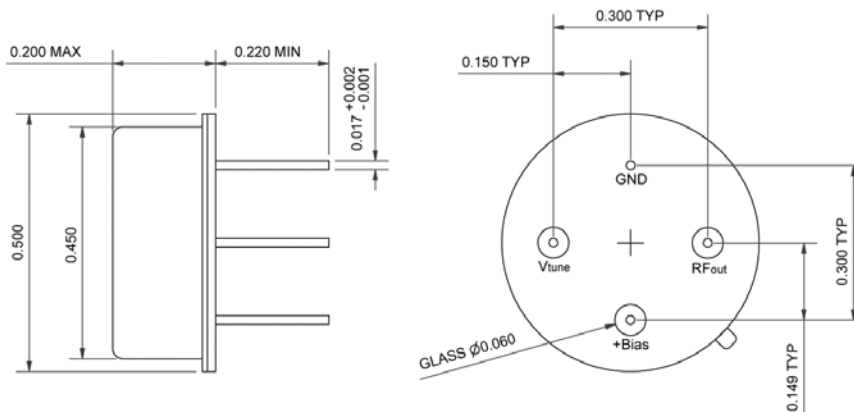
- Transmitter and Receiver
Subsystems for
Telecommunication and
Instrumentation
- Digital Radios
- Low Noise Source



General Description

The VTO-10000-T provides a fundamental, low noise 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-T 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

VTO-10000-T Summary Electrical Specifications, 0° C to 70° C

Parameter	Units	Min	Typ	Max
Frequency	GHz		10	
Vt @ 10 GHz	V	0.5		12
Output (50 Ω Load)				
Power	dBm	7		13
Voltage p-p	V	1.4		2.8
Tuning Sensitivity	MHz / V	5		10
Modulation Bandwidth	MHz	20		
Output Return Loss	dB	12	14	
Second Harmonic (Below Carrier)	dBc		-20	-17
Third Harmonic (Below Carrier)	dBc		-20	-17
Spurious Output (Below Carrier)	dBc			-60
Phase Noise @				
100 KHz from F _o	dBc / Hz		-105	-102
10 MHz from F _o	dBc / Hz			-135
Frequency Drift over Temperature	MHz		25	
Pulling Figure (12 dB Return Loss)	MHz		10	
Pushing Figure, +/- 0.2V Supply	MHz		10	
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

Part Number
VTO-10000-T

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