Phase Matrix, Inc.™
Technology You Can Count On

Voltage Tuned Oscillator

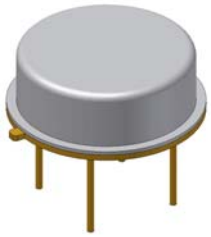
VTO-053-42T

Features

- **Operating frequency: 4.2GHz to 6.5 GHz**
- **Output Power (50 Ω Load): 7 dBm Minimum**
- **Modulation Sensitivity: 150 to 300 MHz/V**
- **Tuning Voltage: 1 to 20 Volts**
- **Low Phase Noise: < -95 dBc/Hz@100 KHz**
- **Low Power Consumption**
- **0.5 D x 0.18 H inches**

Applications

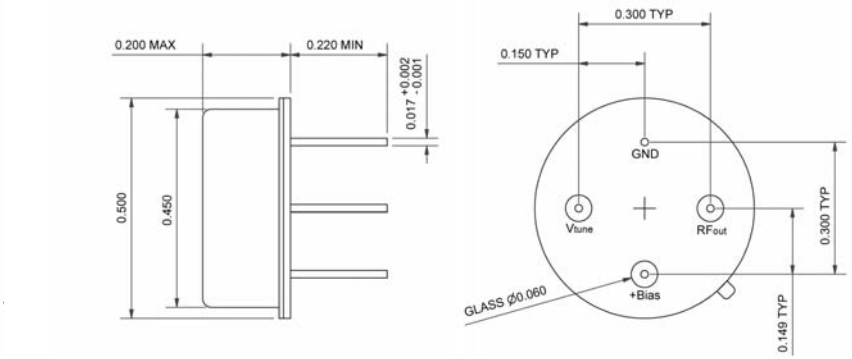
- **High Speed Communication systems**
- **Digital Radios**
- **Low Noise Source**



General Description

The VTO-053-42T provides a fundamental, low noise wideband source for applications in wireless and high-speed communication 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-053-42T Absolute Maximum Ratings

Parameter	Units	Ratings
Positive Supply Voltage	V	12
Tuning Voltage	V	22
Operating Temperature	°C	-10 to 95
Storage Temperature	°C	-40 to +125

VTO-053-42T Summary Electrical Specifications, 0° C to 75° C

Parameter	Units	Min	Typ	Max
Frequency Range	GHz	4.2		6.5
Vt @ 4.2 GHz	V	0.5		
Vt @ 6.5 GHz	V			20
Output (50 Ω 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			-10
Third Harmonic (Below Carrier)	dBc			-10
Spurious Output (Below Carrier)	dBc			-60
Phase Noise @				
100 KHz from F_o	dBc / Hz		-95	-90
10 MHz from F_o	dBc / Hz			-135
Frequency Drift over Temperature	MHz			50
Pulling Figure (12 dB Return Loss)	MHz			25
Pushing Figure, +/- 0.2V Supply	MHz			15
Positive Supply Voltage	V	9.7	10	10.3
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-053-42TS

For more information:
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Data subject to change