

3 to 6 GHz VOLTAGE TUNED OSCILLATOR

VTO-4500-67M
VTO-4500-67T

Overview:

The VTO-4500-67 is a low-noise, wideband source for applications in military systems and wireless high-speed communications systems. This low-noise source uses a high-performance, low-noise silicon bi-polar junction transistor (Si BJT) in conjunction with a hyper-abrupt varactor diode to provide tuning capability. A GaAs MMIC buffer amplifier is used to provide the necessary power output and load isolation.

Features:

- Operating frequency 3 to 6 GHz
- Output power 10 dBm min.
- Phase noise < -103 dBc/Hc @ 100 kHz.
- Low power consumption
- Modulation sensitivity 125 to 350 MHz/V
- Tuning voltage 0.5 to 20 V

Applications:

- Military systems
- Digital radios
- Low-noise wideband source



Specifications

ABSOLUTE MAXIMUM RATINGS

PARAMETER	UNITS	RATING
Positive Supply Voltage	V	10
Tuning Voltage	V	22
Operating Temperature	C	-10° to +85°
Storage Temperature	C	-50° to +125°

ELECTRICAL SPECIFICATIONS (measured at 0° to +70°)

PARAMETER	UNITS	MIN.	TYP.	MAX.
Center Frequency f_0	GHz	3		6
Vt @ 3 GHz	V	0.5		
Vt @ 6 GHz	V			20

ELECTRICAL SPECIFICATIONS (continued)

PARAMETER	UNITS	MIN.	TYP.	MAX.
Output Power (50 ohms load)	dBm	10		15
Tuning Sensitivity	MHz/V	125		350
Tuning Sensitivity Ratio			2:1	
Modulation Bandwidth	MHz	20		
Output Return Loss	dB	12	14	
Second Harmonic (below carrier)	dBc		-15	
Third Harmonic (below carrier)	dBc		-20	
Spurious Output (below carrier)	dBc		-60	
Phase Noise @ 100 kHz from f_0	dBc/Hz		-103	-100
Phase Noise @ 10 MHz from f_0	dBc/Hz			-135

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Model VTO-4500-67

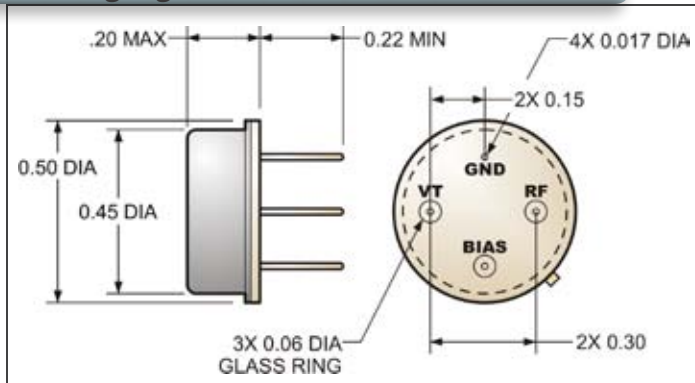
Specifications and ordering information subject to change without notice.

Specifications (continued)

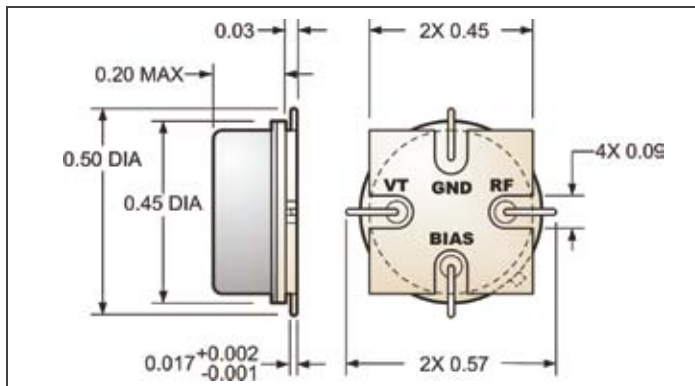
ELECTRICAL SPECIFICATIONS (continued)

PARAMETER	UNITS	MIN.	TYP.	MAX.
Frequency Drift over Temp.	MHz			100
Pulling Figure (12 dB Return Loss)	MHz			20
Pushing Figure (± 0.3 V)	MHz			10
Supply Voltage	V	+7.75	+8	+8.25
Positive Supply Current	mA		75	100
Tuning Port Input Capacitance	pf		23	

Packaging Information

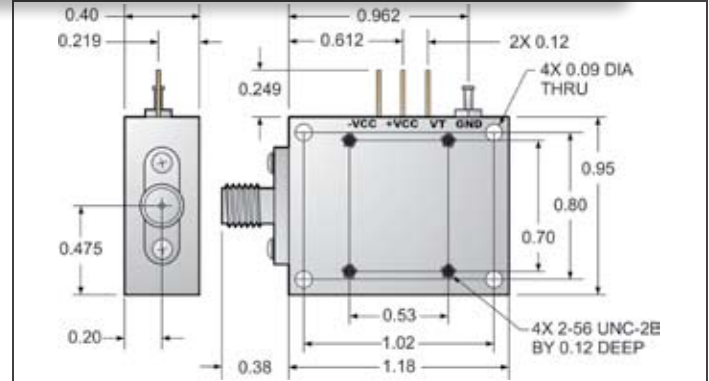


T = TO-8



S = Surface Mount TO-8

Packaging Information (continued)



M = Connectorized

Ordering Information

ORDERING INFORMATION

DESCRIPTION	SPECIFICATION
Model No.	VTO-4500-67
Packaging Options	S, T, or M

Notes:

- 1) See our [catalog](#) for information about other microwave components and sub-assemblies.

Data sheet PN: DS_VTO-4500-67 Rev. 2

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Phase Matrix, Inc. ○ 109 Bonaventura Drive, San Jose CA 95134 ○ Tel: 1-408-428-1000 ○ www.phasematrix.com