EUROQUARTZ

EM47S TCXO

Clipped sine wave output SMD — 6.4MHz to 40.0MHz

FEATURES

- **SMD package 20.8 x 11.7 x 4.7mm**
- **Close tolerance stabilities from ±0.5ppm over 0° to +50°C**
- **±1ppm over -40° to +85°C**
- **Low power consumption**
- **RoHS compliant**

DESCRIPTION

EM47S series TCXOs are packaged in a SMD gull wing format. With clipped sinewave output, close tolerances are available from ±0.5ppm over 0° to +50°C or ±1ppm over -40° to +85°C (frequency dependant). This part has low power consumption and is also available with voltage control.

SPECIFICATION

Product Series Code	
TCXO:	EM47S
VCTCXO:	VEM47S
Frequency Range:	6.4MHz - 40.0MHz
Output Wave Form:	Clipped sinewave
Initial Calibration Tolerance**:	<±1ppm at 25°C
Standard Frequencies (MHz):	10.000,12.800, 13.000, 14.400, 14.7456, 15.360, 16.367667, 16.384, 19.200, 19.440, 20.000, 25.000, 26.000, 27.000
Operating Temperature Range:	*See table*
Frequency Stability	
vs. Ageing:	±1.0ppm max. first year @ 25°C
vs. Voltage Change:	± 0.2ppm max. ±5% change
vs. Load Change:	± 0.2ppm max. ±10% change
vs. Reflow:	± 1ppm max. for 1 reflow and measured after 24hrs
Supply Voltage:	+2.5,+3.0, +3.3 or +5.0VDC
Output Level:	0.8V p-p min.
Start-up Time:	2ms typ, 5ms max.
Current Consumption:	*See table below*
Output Load:	10kΩ//10pF ±10%
Storage Temperature:	-50° to +100°C
Ageing:	±5ppm/year maximum
Environmental:	RoHS Compliant standard.

*N.B. This part in NOT sealed as it has an opening for access to mechanical frequency trimmer as standard. This item should **not** be subjected to aqueous wash.*

Non-mechanical trimmer versions are available by request to allow for aqueous wash. Please add "1"after the package code. E.g. EM47S without trimmer becomes EM471S.

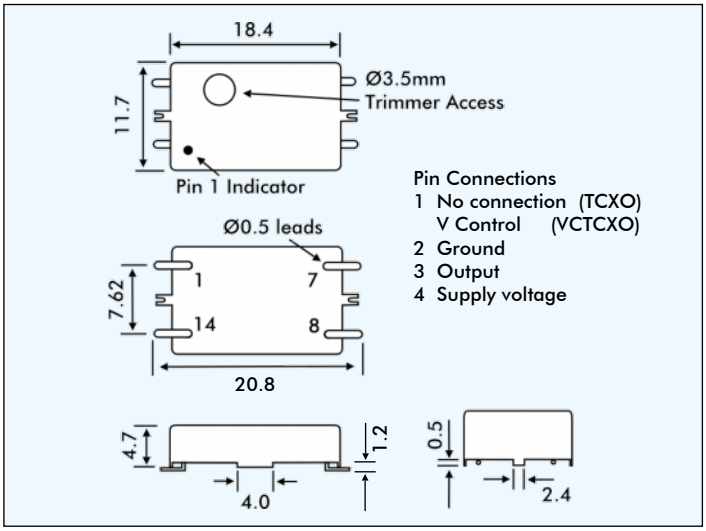
FREQUENCY STABILITY

Frequency Stability (ppm)		±0.5	±1.0	±1.5	±2.0	±2.5
Temperature Range (°C)	0 ~ +50	√	√	√	√	√
	-10 ~ +60	Ask	√	√	√	√
	-20 ~ +70	Ask	√	√	√	√
	-30 ~ +85	Ask	√	√	√	√
	-40 ~ +85	Ask	Ask	√	√	√

CURRENT CONSUMPTION

Frequency	Current
6.4MHz - 15MHz	1.5mA
15.1MHz - 26.0MHz	2.0mA
26.1MHz - 40MHz	2.5mA

OUTLINE & DIMENSIONS



VOLTAGE CONTROL

Control Voltage Centre:	V_{DD} 2.5V = 1.4V ±1.0V
	V_{DD} 3.0V = 1.5V ±1.0V
	V_{DD} 5.0V = 1.5V ±1.0V
Frequency Deviation:	±5.0ppm min.
Slope Polarity (Trans. Func.):	Positive, 10% linearity
Input Impedance:	1.0MΩ
Modulation Bandwidth:	3kHz min.

PHASE NOISE

SSB Phase Noise at 25°C	Offset (Hz)	10	100	1k	10k	100k
	EM47S13 MHz (dBc/Hz)	-80	-115	-135	-148	-148

PART NUMBERING

Example: **EM47S 3-19.440-2.5/-30+75**

Series Designation
TCXO = EM47S
VCTCXO = VEM47S
Use package code '471S' to indicate hermetic version (no trimmer)

Supply Voltage
25 =2.5VDC
3 =3.0VDC
33 =3.3VDC
5 =5.0VDC

Frequency (MHz)

Stability over OTR (±ppm)

Operating Temperature Range (OTR) (°C)
Lower and upper limits

Issue 2

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