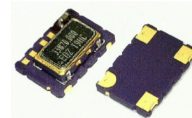


- Miniature 7 x 5 x 2.3mm SMD package
- Wide frequency range: 1.25MHz to 156.0MHz
- Supply voltage 2.8, 3.0, 3.3 or 5.0 Volts
- Frequency stability from $\pm 1\text{ppm}$ over -30 to $+75^\circ\text{C}$
- RoHS compliant



DESCRIPTION

EM572T series TCXOs are packaged in a miniature 4 pad ceramic SMD package. With squarewave (CMOS) output, tolerances are available from $\pm 1.0\text{ppm}$ over -30° to $+75^\circ\text{C}$. The part has a $0.01\mu\text{F}$ decoupling capacitor built in.

SPECIFICATION

Product Series Code	TCXO: EM572T VCTCXO: VEM572T
Frequency Range:	1.25MHz to 156.0MHz
Output Waveform:	Squarewave, HCMOS
Initial Calibration Tolerance:	$< \pm 2.0\text{ppm}$ at $+25^\circ\pm 2^\circ\text{C}$
Standard Frequencies:	10.0, 12.8, 13.0, 14.4, 15.36, 16.384, 19.2, 19.440, 19.68, 25.0, 20.0, 27.0, 38.880, 40.0, 77.760, 125.0, 155.520 (Partial list)
Operating Temperature Range:	See table
Frequency Stability	
vs. Ageing:	$\pm 1.0\text{ ppm max. first year}$
vs. Voltage Change:	$\pm 0.2\text{ ppm max. } \pm 5\% \text{ change}$
vs. Load Change:	$\pm 0.2\text{ ppm max. } \pm 10\% \text{ change}$
vs. Reflow (SMD type):	$\pm 1.0\text{ppm max. for one reflow (Measured after 24 hours)}$
Supply Voltage:	+2.8, +3.0, +3.3 or +5.0V (See table)
Output Logic Levels:	Logic High: 90% Vdd min. Logic Low: 10% Vdd max.
Rise and Fall Times:	10ns max.
Duty Cycle:	50% $\pm 10\%$ standard, 50% $\pm 5\%$ option
Start-up Time:	10ms max.
Current Consumption:	See table below
Output Load:	15pF
Storage Temperature:	$-55 \sim +125^\circ\text{C}$

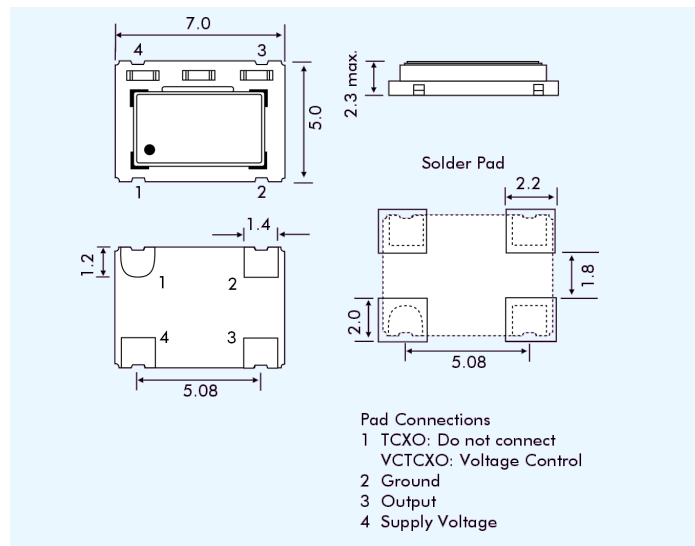
INPUT VOLTAGE & CURRENT CONSUMPTION

Input Voltage/ Frequency	+2.8V	+3.0	+3.3V	+5.0 V
8.192MHz	2mA	2mA	5mA	
10.000MHz	3mA	4mA	7mA	
24.576MHz	5mA	6mA	10mA	
60.000MHz	11mA	14mA	24mA	
150.00MHz	19mA	23mA	36mA	

SSB PHASE NOISE at 25°C

Offset	10Hz	100Hz	1kHz	10kHz	100kHz	1MHz	5MHz
10.0MHz (3.3V) (dBc/Hz)	-96	-120	-135	-142	-143	-149	-150
10.0MHz (5.0V) (dBc/Hz)	-93	-120	-137	-144	-145	-152	-152

EM572T - OUTLINES AND DIMENSIONS



VEM572T VOLTAGE CONTROL SPECIFICATION

Control Voltage:	Standard = $+1.5 \pm 1.0\text{Volts}$ for all input voltages. (Contact technical sales if $+2.5 \pm 2.0\text{ Volts}$ is required.)
Frequency Deviation:	$\pm 5\text{ ppm}$ ($V_{\text{con}} = +1.5 \pm 1.0\text{V}$)
Slope Polarity:	Positive (increase of control voltage increases output frequency.)
Input Impedance:	1M Ω minimum
Modulation Bandwidth:	20kHz minimum
Linearity:	$\pm 10\%$ maximum

FREQUENCY STABILITY

Frequency Stability (ppm)	± 0.5	± 1.0	± 1.5	± 2.0	± 2.5
Temperature Range ($^\circ\text{C}$)					
0 ~ +50	✓	✓	✓	✓	✓
-10 ~ +60	✓	✓	✓	✓	✓
-20 ~ +70	✓	✓	✓	✓	✓
-30 ~ +75	ASK	✓	✓	✓	STD
-40 ~ +85	x	ASK	✓	✓	✓

✓ = available, x = not available, ASK = call Tech. Sales
STD = Standard

PART NUMBERING PROCEDURE

Example: **EM572T33-38.880-2.5/-30+75**

Series Description
TCXO = EM572T
VCTCXO = VEM572T
Supply Voltage

28 = 2.8VDC
3 = 3.0VDC
33 = 3.3 VDC
5 = 5.0 VDC

Frequency (MHz)
Stability over OTR ($\pm\text{ppm}$)
Operating Temperature Range (OTR) ($^\circ\text{C}$)
Lower and upper limits.