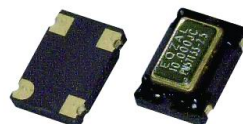


## HCMOS 7 x 5 x 2.3mm SMD, kHz Range

- Miniature 7 x 5 x 2.3mm SMD package
- Frequency range: 20.0kHz to 52.7kHz including 32.768kHz
- Supply voltage 3.3 or 5.0 Volts
- Frequency stability from  $\pm 1$ ppm over -30 to +75°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  $\pm 1.0$ ppm over -30° to +75°C. The part has a 0.01 $\mu$ F decoupling capacitor built in.

### SPECIFICATION

Product Series Code	TCXO: EM572T VCTCXO: VEM572T
Frequency Range:	20.0kHz to 52.7kHz
Standard Frequency:	32.768kHz
Output Waveform:	Squarewave, HCMOS
Initial Calibration Tolerance:	$< \pm 2.0$ ppm at +25 $^{\circ}$ ±2°C
Operating Temperature Range:	See table
Frequency Stability	
vs. Ageing:	$\pm 1.0$ ppm max. first year
vs. Voltage Change:	$\pm 0.2$ ppm max. $\pm 5\%$ change
vs. Load Change:	$\pm 0.2$ ppm max. $\pm 10\%$ change
vs. Reflow (SMD type):	$\pm 1.0$ 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%±10% standard, 50%±5% option
Start-up Time:	10ms max.
Current Consumption:	See table below
Output Load:	15pF
Storage Temperature:	-55~+125°C

### FREQUENCY STABILITY

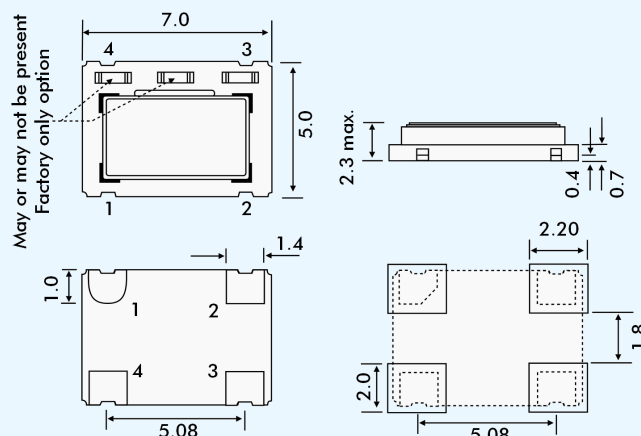
Frequency Stability (ppm)		$\pm 0.5$	$\pm 1.0$	$\pm 1.5$	$\pm 2.0$	$\pm 2.5$
Temperature Range (°C)	0 ~ +50	✓	✓	✓	✓	✓
	-10 ~ +60	✓	✓	✓	✓	✓
	-20 ~ +70	✓	✓	✓	✓	✓
	-30 ~ +75	ASK	✓	✓	✓	STD
	-40 ~ +85	x	ASK	✓	✓	✓

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

### CURRENT CONSUMPTION

Frequency	+3.3 V
32.768kHz	8.0mA
50kHz	12mA

### EM572T - OUTLINES AND DIMENSIONS



#### Pad Connections:

1. VCTCXO: Voltage control  
TCXO: Not connected
2. Ground
3. Output
4. Supply Voltage

### VEM572T VOLTAGE CONTROL SPECIFICATION

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

### PART NUMBERING PROCEDURE

Example: **EM572T33-32.768k-2.5/-30+75**

Series Description  
 TCXO = EM572T  
 VCTCXO = VEM572T  
 Supply Voltage  
     33 = 3.3 VDC  
     5 = 5.0 VDC  
 Frequency (kHz)  
 Stability over OTR ( $\pm$ ppm)  
 Operating Temperature Range (OTR) (°C)  
 Lower and upper limits.