

HCMOS 4 pad SMD, 'V' Group

- Miniature 11.4 x 9.6 x 4.7mm SMD package
- Wide frequency range: 27.0MHz to 200.0MHz
- Supply voltage 3.3 Volts
- Frequency stability from ± 1 ppm over -30 to +75°C

DESCRIPTION

EMV44T series TCXOs are packaged in a miniature 4 pad ceramic SMD package. With squarewave (CMOS) output, tolerances are available from ± 1.0 ppm over -30° to +75°C. The part has a 0.01 μ F decoupling capacitor built in.

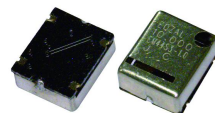
SPECIFICATION

Product Series Code	TCXO: EMV44T VCTCXO: VEMV44T
Frequency Range:	27.0MHz to 200.0MHz
Output Waveform:	Squarewave, HCMOS
Initial Calibration Tolerance	
Models without trimmer:	$< \pm 2.0$ ppm
Models with trimmer:	$< \pm 1.0$ ppm
Standard Frequencies:	30.0, 32.768, 38.880, 40.0, 50.0, 54.0, 64.0, 65.536, 77.76, 80.0, 128.0, 160.0 and 200.0MHz (Partial list)
Operating Temperature Range:	See table
Mechanical Frequency Tuning:	± 3.0 ppm minimum
Frequency Stability	
vs. Ageing:	± 1.0 ppm max. first year
vs. Voltage Change:	± 0.3 ppm max. $\pm 5\%$ change
vs. Load Change:	± 0.3 ppm max. $\pm 10\%$ change
vs. Reflow (SMD type):	± 1.0 ppm max. for one reflow (Measured after 24 hours)
Supply Voltage:	+3.3 Volts
Output Logic Levels:	Logic High: 90% Vdd min. Logic Low: 10% Vdd max.
Current Consumption:	40mA maximum
Rise and Fall Times:	10ns typical
Duty Cycle:	50% $\pm 10\%$ standard,
Start-up Time:	5ms typical, 10ms max.
Current Consumption:	See table below
Output Load:	15pF
Storage Temperature:	-55~+125°C

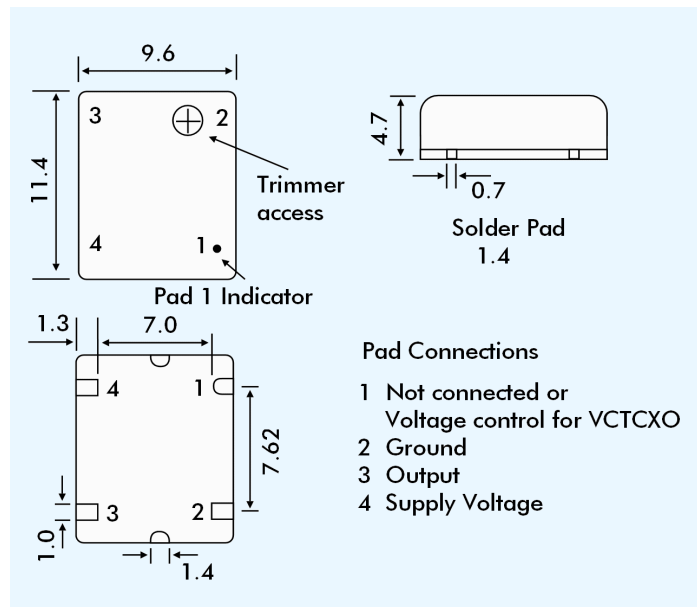
FREQUENCY STABILITY

Stability (ppm)	± 0.5	± 1.0	± 1.5	± 2.0	± 2.5	± 3.0
Temp. Range (°C)						
0 ~ +50	✓	✓	✓	✓	✓	✓
-10 ~ +60	ASK	✓	✓	✓	✓	✓
-20 ~ +70	X	✓	✓	✓	✓	✓
-30 ~ +75	X	✓	✓	✓	✓	✓
-40 ~ +85	X	X	X	ASK	ASK	✓

✓ = available, x = not available, ASK = call Technical Sales



EMV44T - OUTLINES AND DIMENSIONS



VEMV44T VOLTAGE CONTROL SPECIFICATION

Control Voltage:	Standard = $+1.5 \pm 1.0$ Volts for all input voltages. (Contact technical sales if $+2.5 \pm 2.0$ Volts is required.)
Frequency Deviation:	± 6.0 ppm min. ($V_{con} = +4.5V \pm 1.0V$)
Slope Polarity:	Positive (increase of control voltage increases output frequency.)
Input Impedance:	2M Ω minimum
Modulation Bandwidth:	25kHz minimum
Linearity:	$\pm 10\%$ maximum

SSB PHASE NOISE at 25°C

Offset	10Hz	100Hz	1kHz	10kHz	100kHz
Part = EMV44T33					
at 77.760MHz (dBc/Hz)	-80	-110	-135	-130	-132
at 155.520MHz (dBc/Hz)	-80	-110	-125	-120	-125

PART NUMBERING SCHEDULE

Example:	EMV44T33-200.00-2.5/-30+75
Series Description	TCXO = EMV44T
VCTCXO = VEMV44T	
Supply Voltage	33 = 3.3 VDC
Frequency (MHz)	200.00
Stability over OTR ($\pm$ ppm)	2.5
Operating Temperature Range (OTR) (°C)	-30+75
Lower and upper limits	