

### HCMOS 8 pin DIL, 'V' Group

- 8 pin DIL package with trimmer
- Wide frequency range: 27.0MHz to 200.0MHz
- Supply voltage 3.3 Volts
- Frequency stability from  $\pm 1$ ppm over  $-30$  to  $+75^{\circ}\text{C}$



#### DESCRIPTION

EMV9T series TCXOs are packaged in an 8 pin DIL package with mechanical trimmer. With squarewave (CMOS) output, tolerances are available from  $\pm 1.0$ ppm over  $-30^{\circ}$  to  $+75^{\circ}\text{C}$ . The part has a  $0.01\mu\text{F}$  decoupling capacitor built in.

#### SPECIFICATION

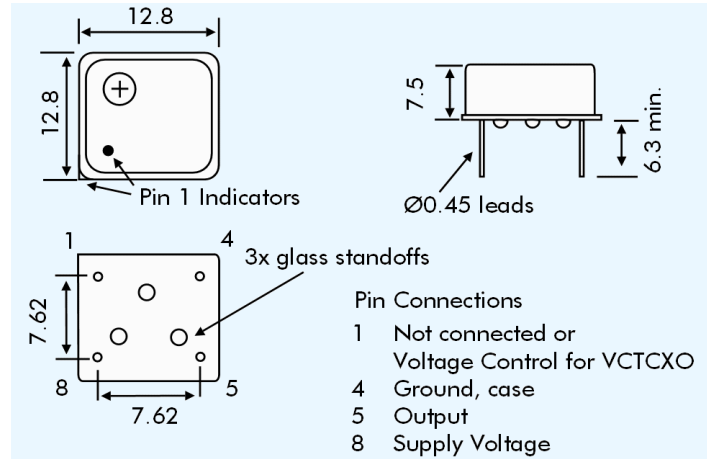
Product Series Code	TCXO: EMV9T VCTCXO: VEMV9T
Frequency Range:	27.0MHz to 200.0MHz
Output Waveform:	Squarewave, HCMOS
Initial Calibration Tolerance	
Models without trimmer:	$< \pm 2.0$ ppm
Models with trimmer:	$< \pm 1.0$ ppm
Standard Frequencies:	30.0, 32.768, 38.880, 40.0, 50.0, 54.0, 64.0, 65.536, 77.76, 80.0, 128.0, 160.0 and 200.0MHz (Partial list)
Operating Temperature Range:	See table
Mechanical Frequency Tuning:	$\pm 3.0$ ppm minimum
Frequency Stability	
vs. Ageing:	$\pm 1.0$ ppm max. first year
vs. Voltage Change:	$\pm 0.3$ ppm max. $\pm 5\%$ change
vs. Load Change:	$\pm 0.3$ ppm max. $\pm 10\%$ change
vs. Reflow (SMD type):	$\pm 1.0$ 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:	$-55 \sim +125^{\circ}\text{C}$

#### FREQUENCY STABILITY

Temp. Range ( $^{\circ}\text{C}$ )	Stability (ppm)	$\pm 0.5$	$\pm 1.0$	$\pm 1.5$	$\pm 2.0$	$\pm 2.5$	$\pm 3.0$
		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

#### EMV9T - OUTLINES AND DIMENSIONS



#### VEMV9T 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:	$\pm 6.0$ ppm min. (Vcon = $+4.5\text{V} \pm 1.0\text{V}$ )
Slope Polarity:	Positive (increase of control voltage increases output frequency.)
Input Impedance:	$2\text{M}\Omega$ minimum
Modulation Bandwidth:	25kHz minimum
Linearity:	$\pm 10\%$ maximum

#### SSB PHASE NOISE at $25^{\circ}\text{C}$

Offset	10Hz	100Hz	1kHz	10kHz	100kHz
Part = EMV9T33 at 77.760MHz (dBc/Hz)	-80	-110	-135	-130	-132
at 155.520MHz (dBc/Hz)	-80	-110	-125	-120	-125

#### PART NUMBERING SCHEDULE

