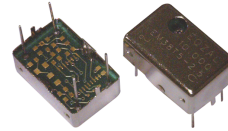


## HCMOS 14 pin DIL compatible, 'V' Group

- 14 pin DIL compatible package
- 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

EMV38T series TCXOs are packaged in a 14 pin DIL compatible package. 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

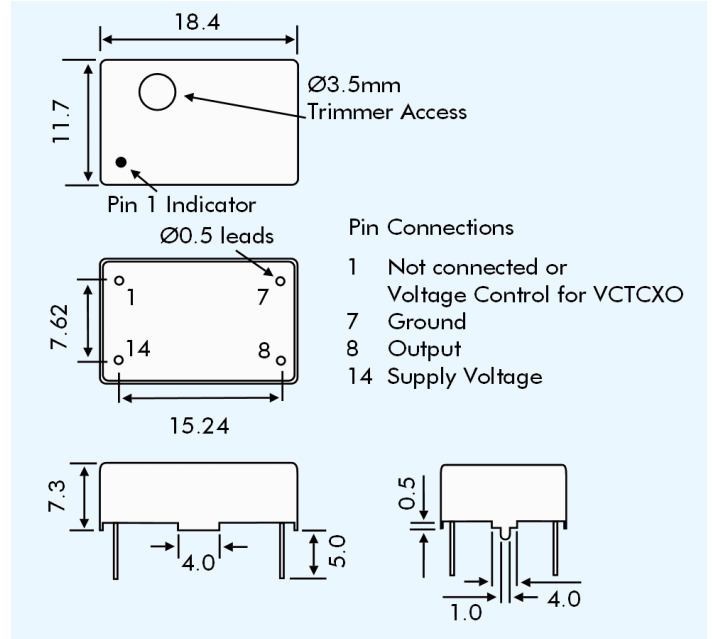
Product Series Code	TCXO:	EMV38T
	VCTCXO:	VEMV38T
Frequency Range:	27.0MHz to 200.0MHz	
Output Waveform:	Squarewave, HCMOS	
Initial Calibration Tolerance		
	Models without trimmer:	$< \pm 2.0$ ppm
	Models with trimmer:	$< \pm 1.0$ ppm
Standard Frequencies:	30.0, 32.768, 38.880, 40.0, 50.0, 54.0, 64.0, 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

### EMV38T - OUTLINES AND DIMENSIONS



### VEMV38T 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. ( $V_{con} = +4.5V \pm 1.0V$ )
Slope Polarity:	Positive (increase of control voltage increases output frequency.)
Input Impedance:	$2M\Omega$ minimum
Modulation Bandwidth:	25kHz minimum
Linearity:	$\pm 10\%$ maximum

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

Offset	10Hz	100Hz	1kHz	10kHz	100kHz
Part = EMV38T33 at 77.760MHz (dBc/Hz)	-80	-110	-135	-130	-132
at 155.520MHz (dBc/Hz)	-80	-110	-125	-120	-125

### PART NUMBERING SCHEDULE

Example: **EMV38T33-200.00-2.5/-30+75**

Series Description	TCXO = EMV38T
VCTCXO = VEMV38T	
Supply Voltage	33 = 3.3 VDC
Frequency (MHz)	200.00
Stability over OTR ( $\pm$ ppm)	2.5
Operating Temperature Range (OTR) ( $^\circ\text{C}$ )	-30+75
Lower and upper limits	