

- 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  $\pm 1$ ppm over -30 to +75°C
- RoHS compliant



### DESCRIPTION

EMV44GT 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

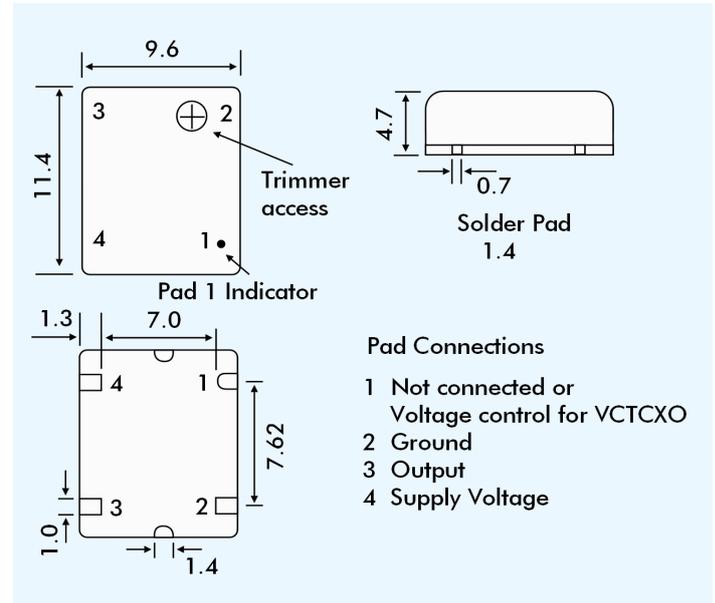
Product Series Code	TCXO:	EMV44GT
	VCTCXO:	VEMV44GT
Frequency Range:	27.0MHz to 200.0MHz	
Output Waveform:	Squarewave, HCMOS	
Initial Calibration Tolerance		
	Models without trimmer:	$< \pm 2.0$ ppm
	Models with trimmer:	$< \pm 1.0$ ppm
Standard Frequencies:	30.0, 32.768, 38.880, 40.0, 50.0, 54.0, 64.0, 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~+125°C	

### FREQUENCY STABILITY

Stability (ppm)		$\pm 0.5$	$\pm 1.0$	$\pm 1.5$	$\pm 2.0$	$\pm 2.5$	$\pm 3.0$
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

### EMV44GT - OUTLINES AND DIMENSIONS



### VEMV44GT VOLTAGE CONTROL SPECIFICATION

Control Voltage:	Standard = +1.5 $\pm$ 1.0Volts for all input voltages. (Contact technical sales if +2.5 $\pm$ 2.0 Volts is required.)
Frequency Deviation:	$\pm 6.0$ ppm min. (Vcon = +4.5V $\pm$ 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°C

Offset		10Hz	100Hz	1kHz	10kHz	100kHz
Part = EMV44GT33	at 77.760MHz (dBc/Hz)	-80	-110	-135	-130	-132
	at 155.520MHz (dBc/Hz)	-80	-110	-125	-120	-125

### PART NUMBERING SCHEDULE

Example: **EMV44GT33-200.00-2.5/-30+75**

Series Description  
 TCXO = EMV44GT\*  
 VCTCXO = VEMV44GT

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

\* Note, 'G' indicates RoHS Compliant part