

CMOS 4 pad SMD, kHz Range

20.0kHz to 52.7kHz

- Miniature 11.4 x 9.6 x 4.7mm SMD package
- Frequency range: 20.0 to 50.0kHz; 32.768kHz
- Supply voltage 3.3 or 5.0 Volts
- Frequency stability from ± 1 ppm over -30 to +75°C
- RoHS compliant



DESCRIPTION

EM44GT 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:	EM44GT
	VCTCXO:	VEM44GT
Frequency Range:	32.768kHz Standard frequency 20.0kHz to 50.0kHz	
Output Waveform:	Squarewave	
Initial Calibration Tolerance	Models with mech. trimmer: <1.0ppm (at t. 25° \pm 2°C) Models without trimmer: <2.0ppm (at t. 25° \pm 2°C)	
Operating Temperature Range:	See table	
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: ± 1 ppm max. for one reflow (Measured after 24 hours)	
Supply Voltage:	+3.3 or +5.0Volts (Specify when ordering)	
Output Logic Levels:	Logic High: 90% Vdd min. Logic Low: 10% Vdd max.	
Rise and Fall Times:	10ns max.	
Duty Cycle:	50% \pm 5%	
Start-up Time:	2ms typical, 5ms max.	
Current Consumption:	See table below	
Output Load:	15pF	
Storage Temperature:	-55~+125°C	

FREQUENCY STABILITY

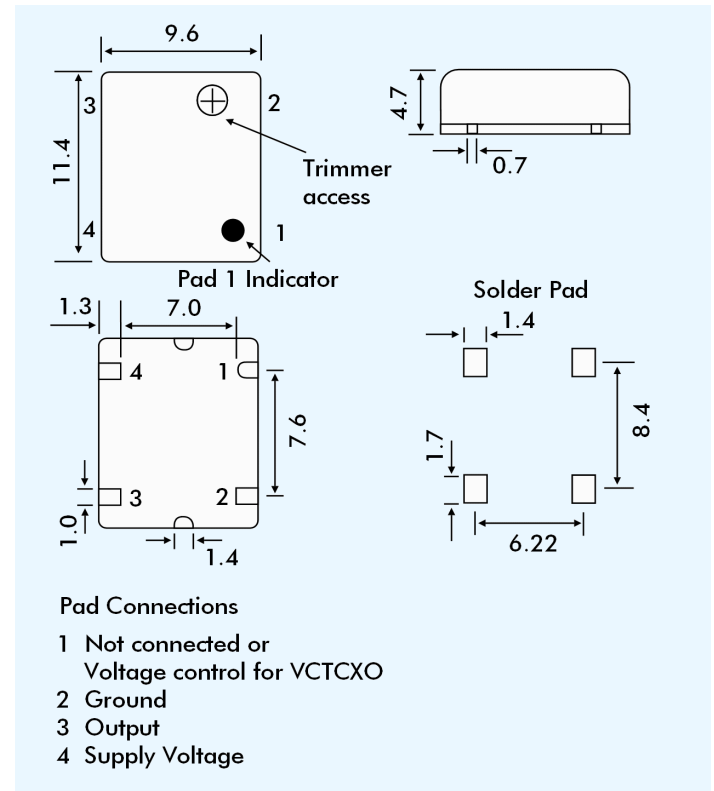
Frequency Stability (ppm)		± 0.5	± 1.0	± 1.5	± 2.0	± 2.5
Temperature Range (°C)	0 ~ +50	ASK	✓	✓	✓	✓
	-10 ~ +60	x	✓	✓	✓	✓
	-20 ~ +70	x	x	✓	✓	✓
	-30 ~ +75	x	x	x	✓	✓
	-40 ~ +85	x	x	x	x	✓

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

CURRENT CONSUMPTION

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

EM44GT - OUTLINES AND DIMENSIONS



VEM44GT 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:	± 6.0 ppm min.
Slope Polarity:	Positive (increase of control voltage increases output frequency.)
Input Impedance:	10k Ω min.
Modulation Bandwidth:	3.0kHz min. measured at -3dB
Linearity:	10% max.

PART NUMBERING PROCEDURE

Example: **EM44GT33-32.768k-2.5/-30+75**

Series Description
 TCXO = EM44GT
 VCTCXO = VEM44GT
 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.