- 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 ±1ppm over -30 to +75°C
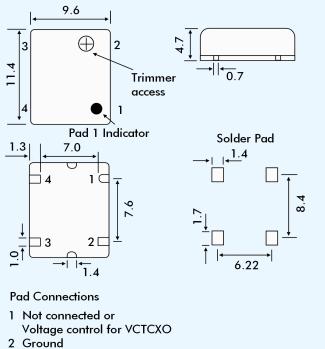- RoHS compliant

RoHS

DESCRIPTION

EM44GT series TCXOs are packaged in a miniature 4 pad ceramic SMD package. With squarewave (CMOS) output, tolerances are available from ±1.0ppm over -30° to +75°C. The part has a 0.01μF 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°±2°C)
Models without trimmer:	<2.0ppm (at t. 25°±2°C)
Operating Temperature Range:	*See table*
Frequency Stability	
vs. Ageing:	±1.0 ppm max. first year
vs. Voltage Change:	±0.3 ppm max. ±5% change
vs. Load Change:	±0.3 ppm max. ±10% change
vs. Reflow:	±1ppm 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%±5%
Start-up Time:	2ms typical, 5ms max.
Current Consumption:	*See table below*
Output Load:	15pF
Storage Temperature:	-55~+125°C

EM44GT - OUTLINES AND DIMENSIONS

Pad Connections

1 Not connected or
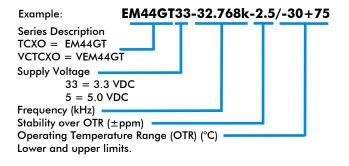 Voltage control for VCTCXO
2 Ground
3 Output
4 Supply Voltage

VEM44GT VOLTAGE CONTROL SPECIFICATION

Control Voltage:	Standard = +1.5±1.0Volts for all input voltages. *(Contact technical sales if +2.5±2.0 Volts is required.)*
Frequency Deviation:	±6.0 ppm min.
Slope Polarity:	Positive *(increase of control voltage increases output frequency.)*
Input Impedance:	10kΩ min.
Modulation Bandwidth:	3.0kHz min. measured at -3dB
Linearity:	10% max.

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

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 (±ppm)
Operating Temperature Range (OTR) (°C)
Lower and upper limits.