EM8T Series TCXO

HCMOS 8 pin DIL, kHz Range

- **Package 8 pin DIL**
- **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**

DESCRIPTION

EM8T series TCXOs are packaged in a miniature 6 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:	EM8T
VCTCXO:	VEM8T
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

FREQUENCY STABILITY

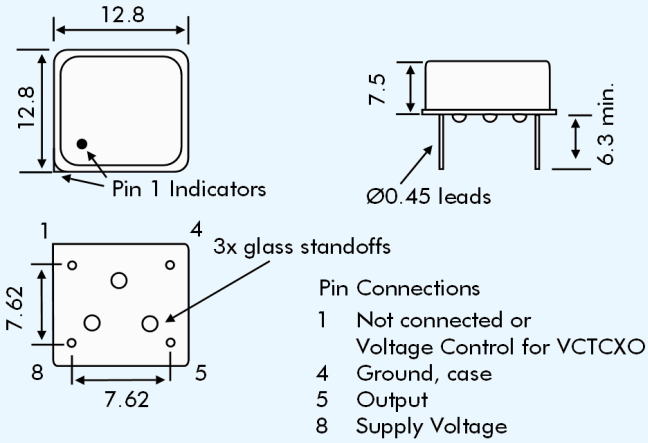
Frequency Stability (ppm)		±0.5	±1.0	±1.5	±2.0	±2.5
Temperature Range (°C)	0 ~ +50	ASK	✓	✓	✓	✓
	-10 ~ +60	x	✓	✓	✓	✓
	-20 ~ +70	x	x	✓	✓	✓
	-30 ~ +75	x	x	x	✓	✓
	-40 ~ +85	x	x	x	x	✓

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

CURRENT CONSUMPTION

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

EM8T - OUTLINES AND DIMENSIONS



VEM8T 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.

PART NUMBERING PROCEDURE

Example: **EM8T33-32.768k-2.5/-30+75**

Series Description
TCXO = EM8T
VCTCXO = VEM8T

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.

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