

CMOS TCXO 2.5 x 2.0mm SMD

9.5MHz to 60.0MHz

- Miniature 2.5 x 2.0 x 0.90mm SMD package
- Frequency range 9.5MHz to 60.0MHz
- Supply voltage 1.8V, 2.5V 3.3 V
- Frequency stability from ±2.5ppm

DESCRIPTION

EM221T series TCXOs are packaged in a miniature, 2.5mm x 2.0mm outline, 4 pad ceramic SMD package. With LVCMOS output into 15pF load, tolerances are available from ±2.5ppm over -40° to +85°C to ±10ppm across -40°C to +85°C (freq dependant).

SPECIFICATION

Product Series Code	TCXO: EM221T
Frequency Range:	9.5MHz to 60MHz
Output Waveform:	Squarewave, HCMOS
Initial Calibration Tolerance:	<±2.0ppm at +25°±2°C
Operating Temperature Range:	-40°~+85°C
Frequency Stability	
vs. Temperature:	See table below
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 (SMD type):	±1.0ppm max. for one reflow (measured after 24 hours)
Supply Voltage:	Volts ±5%
Output Logic Levels:	Logic High: 90% Vdd min. Logic Low: 10% Vdd max.
Rise and Fall Times:	10ns max.; 10%~90% waveform
Duty Cycle:	50%±5% standard
Start-up Time:	5ms max.
Current Consumption:	4.0mA typical (frequency dependant)
Output Load:	15pF
Storage Temperature:	-55°~+125°C

FREQUENCY STABILITY

Frequency Stability (ppm)	±0.5	±1.0	±1.5	±2.0	±2.5	±5.0	±10.0
Temp. Range (°C)							
-40 ~ +85	x	x	x	x	✓	✓	✓
-40 ~ +105	x	x	x	x	Δ	Δ	✓

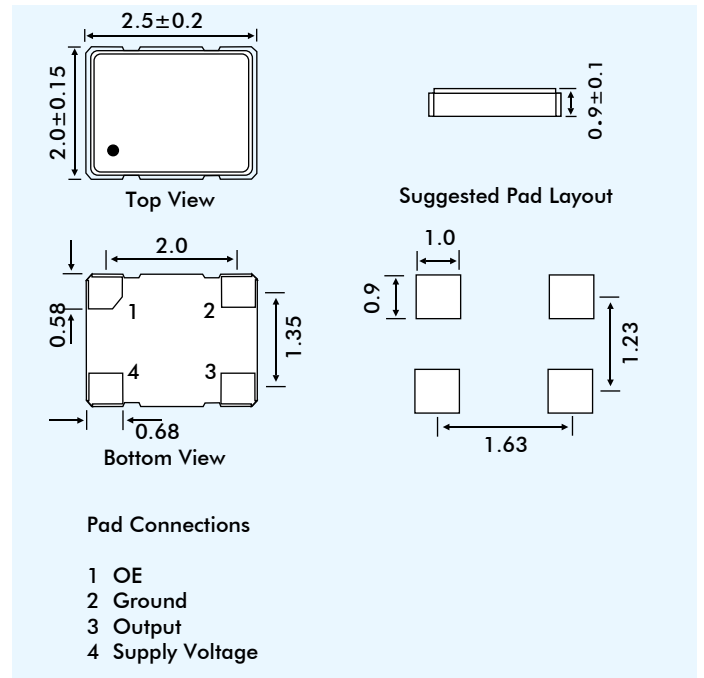
✓ = available, x = not available, Δ =ASK = call Technical Sales

SSB PHASE NOISE at 25°C

Offset	10Hz	100Hz	1kHz	10kHz	100kHz
EM221T33 50.0MHz (dBc/Hz)	-85	-111	-133	-149	-154

Standard Frequencies Available [MHz]
12.000, 20.000, 24.000, 25.000, 26.000, 40.000, 50.000, 60.000

EM221T - OUTLINES AND DIMENSIONS



PART NUMBERS EM221T 33-38.400-2.5/-40+85

