

HCMOS TCXO 3.2 x 2.5mm SMD

8.192MHz to 40.0MHz

- Miniature 3.2 x 2.5 x 1.3mm SMD package
- Frequency range: 8.192MHz to 40.0MHz
- Supply voltage +2.5 Volts, +3.3 Volts
- Frequency stability from ±1ppm over -40 to +85°C
- RoHS compliant



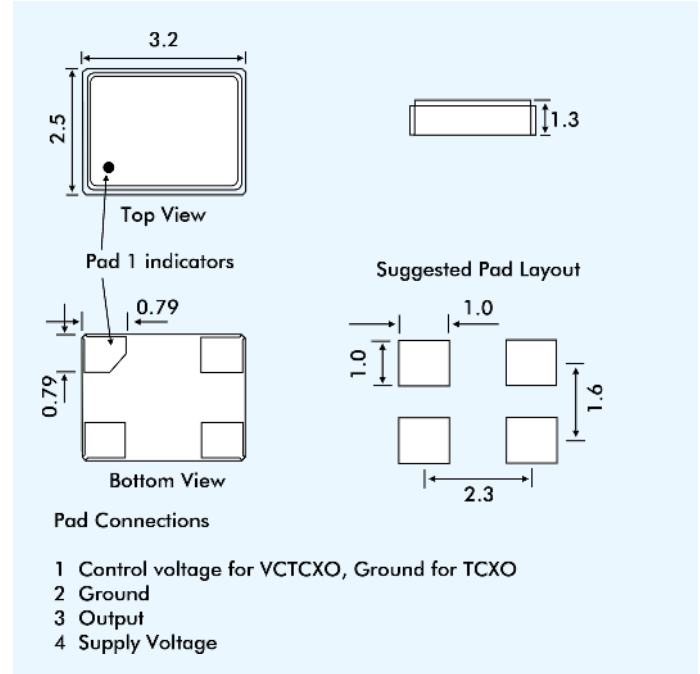
DESCRIPTION

EM32T series TCXOs are packaged in a miniature, 3.2 x 2.5mm outline, 4 pad ceramic SMD package. With squarewave (HCMOS) output, tolerances are available from ±1.0ppm over -40° to +85°C. The part has a 0.01µF decoupling capacitor built in.

SPECIFICATION

| | |
|--------------------------------|---|
| Product Series Code | TCXO: EM32T VCTCXO: VEM32T |
| Frequency Range: | 8.192MHz to 40.0MHz |
| Output Waveform: | Squarewave, HCMOS |
| Initial Calibration Tolerance: | <±2.0ppm at +25°±2°C |
| Operating Temperature Range: | from 0°~50° to -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: | +2.5Volts, +3.3Volts ±5% |
| Output Logic Levels: | Logic High: 90% Vdd min. Logic Low: 10% Vdd max. |
| Rise and Fall Times: | 10ns max. |
| Duty Cycle: | 50%±10% standard, 50%±5% option |
| Start-up Time: | 5ms typical, 10ms max. |
| Current Consumption: | 6.0mA typical (frequency dependant) |
| Output Load: | 15pF |
| Storage Temperature: | -40°~+85°C |
| Ageing: | ±3ppm per year (max.) |

EM32T - OUTLINES AND DIMENSIONS



VEM32T VOLTAGE CONTROL SPECIFICATION

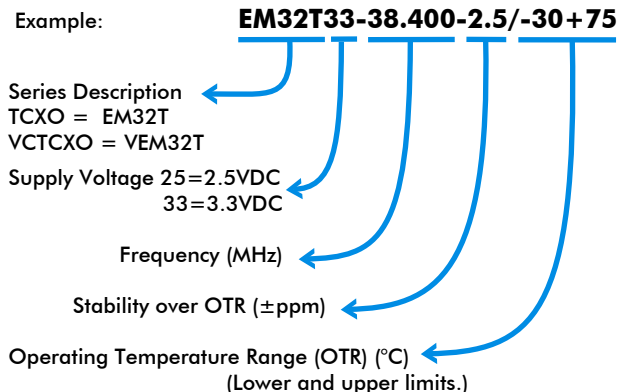
| | |
|-----------------------|---|
| Control Voltage: | Standard = +1.5±1.0Volts for all input voltages. (Contact technical sales if +2.5±2.0 Volts is required.) |
| Frequency Deviation: | ±5.0 ppm min. (Vcon = +1.5V±1.0V) |
| Slope Polarity: | Positive (increase of control voltage increases output frequency.) |
| Input Impedance: | 50MΩ minimum |
| Modulation Bandwidth: | 20kHz minimum |
| Linearity: | ±10% maximum |

FREQUENCY STABILITY

| Frequency Stability (ppm) | | ±0.5 | ±1.0 | ±1.5 | ±2.0 | ±2.5 | ±3.0 | ±5.0 |
|---------------------------|-----------|------|------|------|------|------|------|------|
| Temp. Range (°C) | 0 ~ +50 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | -10 ~ +60 | ASK | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | -20 ~ +70 | x | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | -30 ~ +75 | x | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | -40 ~ +85 | x | ASK | ✓ | ✓ | ✓ | ✓ | ✓ |

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

PART NUMBERS



SSB PHASE NOISE at 25°C

| Offset | 10Hz | 100Hz | 1kHz | 10kHz | 100kHz | |
|-------------------|----------|-------|------|-------|--------|------|
| M32T33 10.0MHz | (dBc/Hz) | -96 | -122 | -138 | -145 | -150 |