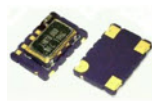


## CMOS 7 x 5 x 2.5mm SMD, 'V' Group

## 27.0MHz to 200.0MHz

- Miniature 7 x 5 x 2.3mm SMD package
- Wide frequency range: 27.0MHz to 200.0MHz
- Supply voltage 3.3 Volts
- Frequency stability from  $\pm 1$ ppm over  $-30$  to  $+75^{\circ}\text{C}$
- RoHS compliant



### DESCRIPTION

EMV572T series TCXOs are packaged in a miniature 4 pad ceramic SMD package. With squarewave (CMOS) output, tolerances are available from  $\pm 1.0$ ppm over  $-30^{\circ}$  to  $+75^{\circ}\text{C}$ . The part has a 0.01 $\mu\text{F}$  decoupling capacitor built in.

### SPECIFICATION

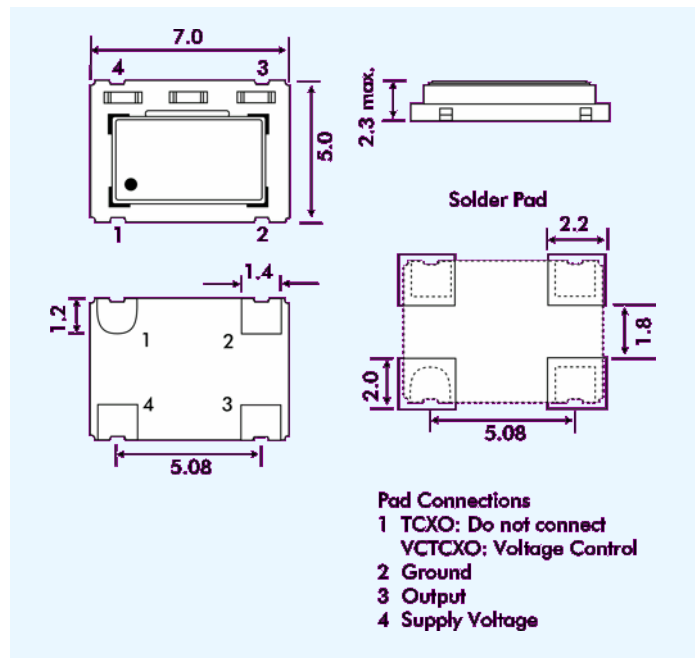
|                                |                                                                                                                |
|--------------------------------|----------------------------------------------------------------------------------------------------------------|
| Product Series Code            | TCXO: EMV572T<br>VCTCXO: VEMV572T                                                                              |
| Frequency Range:               | 27.0MHz to 200.0MHz                                                                                            |
| Output Waveform:               | Squarewave, HCMOS                                                                                              |
| Initial Calibration Tolerance: | $\leq \pm 2.0$ ppm at $+25^{\circ} \pm 2^{\circ}\text{C}$                                                      |
| Standard Frequencies:          | 30.0, 32.768, 38.880, 40.0, 50.0, 54.0, 64.0, 65.536, 77.76, 80.0, 128.0, 160.0 and 200.0MHz<br>(Partial list) |
| Operating Temperature Range:   | See table                                                                                                      |
| Frequency Stability            |                                                                                                                |
| vs. Ageing:                    | $\pm 1.0$ ppm max. first year                                                                                  |
| vs. Voltage Change:            | $\pm 0.3$ ppm max. $\pm 5\%$ change                                                                            |
| vs. Load Change:               | $\pm 0.3$ ppm max. $\pm 10\%$ change                                                                           |
| vs. Reflow (SMD type):         | $\pm 1.0$ ppm max. for one reflow<br>(Measured after 24 hours)                                                 |
| Supply Voltage:                | +3.3 Volts                                                                                                     |
| Output Logic Levels:           | Logic High: 90% Vdd min.<br>Logic Low: 10% Vdd max.                                                            |
| Current Consumption:           | 40mA maximum                                                                                                   |
| Rise and Fall Times:           | 10ns typical                                                                                                   |
| Duty Cycle:                    | 50% $\pm 10\%$ standard,                                                                                       |
| Start-up Time:                 | 5ms typical, 10ms max.                                                                                         |
| Current Consumption:           | See table below                                                                                                |
| Output Load:                   | 15pF                                                                                                           |
| Storage Temperature:           | $-55 \sim +125^{\circ}\text{C}$                                                                                |

### FREQUENCY STABILITY

| Stability (ppm)                    | $\pm 0.5$ | $\pm 1.0$ | $\pm 1.5$ | $\pm 2.0$ | $\pm 2.5$ | $\pm 3.0$ |
|------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| Temp. Range ( $^{\circ}\text{C}$ ) |           |           |           |           |           |           |
| 0 ~ +50                            | ✓         | ✓         | ✓         | ✓         | ✓         | ✓         |
| -10 ~ +60                          | ASK       | ✓         | ✓         | ✓         | ✓         | ✓         |
| -20 ~ +70                          | X         | ✓         | ✓         | ✓         | ✓         | ✓         |
| -30 ~ +75                          | X         | ✓         | ✓         | ✓         | ✓         | ✓         |
| -40 ~ +85                          | X         | X         | X         | ASK       | ASK       | ✓         |

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

### EMV57T - OUTLINES AND DIMENSIONS



### VEMV572T VOLTAGE CONTROL SPECIFICATION

|                       |                                                                                                                        |
|-----------------------|------------------------------------------------------------------------------------------------------------------------|
| Control Voltage:      | Standard = $+1.5 \pm 1.0$ Volts for all input voltages. (Contact technical sales if $+2.5 \pm 2.0$ Volts is required.) |
| Frequency Deviation:  | $\pm 6.0$ ppm min. ( $V_{con} = +4.5\text{V} \pm 1.0\text{V}$ )                                                        |
| Slope Polarity:       | Positive (increase of control voltage increases output frequency.)                                                     |
| Input Impedance:      | 2M $\Omega$ minimum                                                                                                    |
| Modulation Bandwidth: | 25kHz minimum                                                                                                          |

### SSB PHASE NOISE at $25^{\circ}\text{C}$

| Offset                 | 10Hz | 100Hz | 1kHz | 10kHz | 100kHz |
|------------------------|------|-------|------|-------|--------|
| Part = EMV57T33        |      |       |      |       |        |
| at 77.760Mhz (dBc/Hz)  | -80  | -110  | -135 | -130  | -132   |
| at 155.520Mhz (dBc/Hz) | -80  | -110  | -125 | -120  | -125   |

### PART NUMBERING SCHEDULE

|                                                          |                                    |
|----------------------------------------------------------|------------------------------------|
| Example:                                                 | <b>EMV572T33-200.00-2.5/-30+75</b> |
| Series Description                                       | TCXO = EMV572T                     |
| VCTCXO = VEMV572T                                        |                                    |
| Supply Voltage                                           | 33 = 3.3 VDC                       |
| Frequency (MHz)                                          | 200.00                             |
| Stability over OTR ( $\pm$ ppm)                          | 2.5                                |
| Operating Temperature Range (OTR) ( $^{\circ}\text{C}$ ) | -30+75                             |
| Lower and upper limits                                   |                                    |