

ECS-TXO-3225 (3.3V) HCMOS SMD TCXO and ECS-VTXO-3225 (3.3V) HCMOS SMD VC-TCXO are ideal for portable, wireless applications where stability is critical.

Request a Sample

**OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS**



- HCMOS TCXO/VC-TCXO
- 3.2 x 2.5 mm Footprint
- PbFree/RoHS Compliant
- Peak solder temp +260°C (10 sec)
- MSL 1
- Lead Finish Au

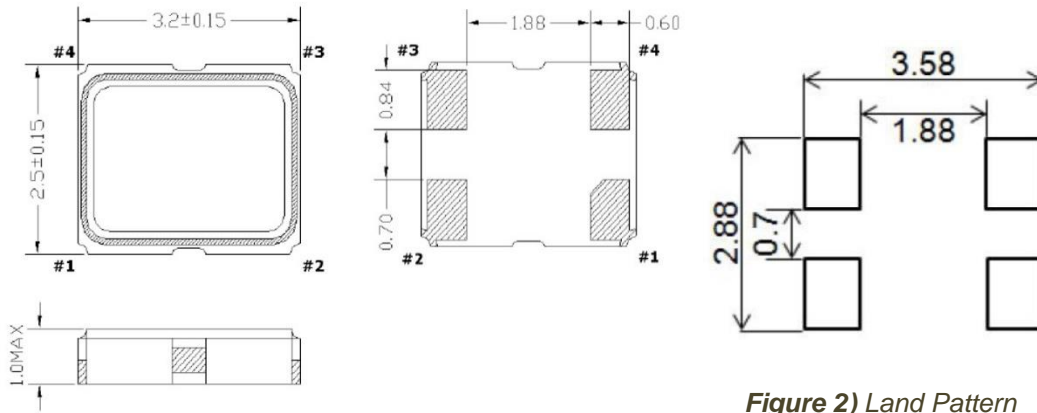
| Parameters            | Conditions              | ECS-TXO-3225 |       |        | Units  |
|-----------------------|-------------------------|--------------|-------|--------|--------|
|                       |                         | MIN          | TYP   | MAX    |        |
| Frequency Range       |                         | 8.192        |       | 40.000 | MHz    |
| Operating Temperature | * Standard              | -30          |       | +85    | °C     |
| Storage Temperature   |                         | -40          |       | +90    | °C     |
| Input Voltage         | VDD                     | +3.135       | +3.3  | +3.465 | VDC    |
| Frequency Stability   | Vs. Temp (-30 ~ +85°C)  |              |       | ±2.5   | PPM    |
|                       | Vs. Supply Change (±5%) |              |       | ±0.3   | PPM    |
|                       | Vs. Load Change (±5%)   |              |       | ±0.3   | PPM    |
|                       | Vs. Aging/Year          |              |       | ±1.0   | PPM    |
| Frequency Tolerance   | @ +25°C ±2°C            |              |       | ±1.5   | PPM    |
| Current Consumption   |                         |              |       | 6.0    | mA     |
| "0" Level             | VOL                     |              |       | 0.5    | VDC    |
| "1" Level             | VOH                     | 80% VDD      |       |        | VDC    |
| Output Symmetry       | @50% VDD Level          |              |       | 40/60  | %      |
| Rise and Fall Times   | 10% VDD to 90% Level    |              |       | 10     | ns     |
| Output Load           | CMOS                    |              |       | 15     | pF     |
| Start-up Time         |                         |              |       | 2.0    | mS     |
| Phase Noise           | @ 1 KHz Offset          |              |       | -135   | DBc/Hz |
| ECS-VTXO-3225 Option  |                         |              |       |        |        |
| Control Voltage       | Pin 1                   | +0.15        | +1.65 | +3.15  | VDC    |
| Pullability           |                         | ±5           |       |        | PPM    |

**Part Numbering Guide: Example ECS-TXO-3225-250-TR**

| ECS | Series                                 | Frequency Abbreviations | Stability Tolerance                                                                              | Temperature                                                                              | Packaging        |
|-----|----------------------------------------|-------------------------|--------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|------------------|
| ECS | TXO-3225 = TCXO<br>VTXO-3225 = VC-TCXO | 250 = 25.000 MHz        | <u>Standard</u><br>Blank = ±2.5 ppm<br><br><u>Custom Options</u><br>B = ±1.5 ppm<br>C = ±1.0 ppm | <u>Standard</u><br>Blank = -30 ~ +85°C<br><br><u>Custom Options</u><br>* N = -40 ~ +85°C | TR = Tape & Reel |

\* Consult Factory for availability of ±1 ppm -40 ~ 85°C

**Package Dimensions (mm)**



**Figure 1) Top, Side, and Bottom views**

**Figure 2) Land Pattern**

| Pin Connections |                          |
|-----------------|--------------------------|
| #1              | N/C or V <sub>CONT</sub> |
| #2              | Ground                   |
| #3              | Output                   |
| #4              | VDD                      |

| Developed Frequencies |                 |
|-----------------------|-----------------|
| * Abbreviation        | Frequency (MHz) |
| 100                   | 10.000          |
| 120                   | 12.000          |
| 122.8                 | 12.288          |
| 147.4                 | 14.7456         |
| 160                   | 16.000          |
| 200                   | 20.000          |
| 250                   | 25.000          |
| 270                   | 27.000          |