

# Temperature Compensated Crystal Oscillators (TCXO's)

## TC-200



### Description:

Vectron International has introduced a series of low jitter complementary PECL TCXO's for use in SONET Minimum Clock (SMC) applications and is available in Output frequencies from 311.04 MHz to 777.6 MHz.

### Features:

- True SONET Minimum performance
- Ultra low Jitter
- 3.3 Vdc or 5 Vdc operation
- Complementary PECL output

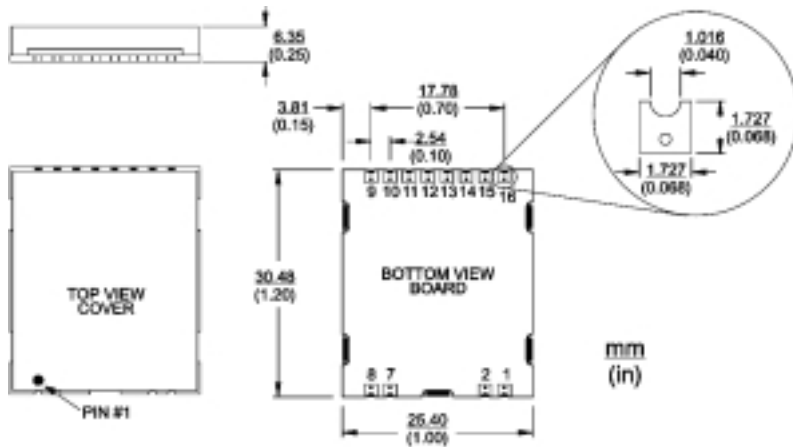
### Performance Characteristics

| Parameter   | Characteristics  |
|---|--|
| Frequencies:  | 311.04 MHz to 777.6 MHz  |
| Package Size:   | 30.48 x 25.4 x 6.35 mm (1.2" x 1.0" x 0.25")   |
| Supply Voltage (Vcc):<br>(other options are available upon request) | <b>C</b> = 5.0 Vdc $\pm 5\%$<br><b>D</b> = 3.3 Vdc $\pm 5\%$   |
| Current:  | <200 mA  |
| Output:   | Complementary PECL   |
| Output Level (@ +25°C):   | Voh ("1") = Vcc<br>Vol ("0") = Vcc - 1.63 V max  |
| Rise/Fall Time:   | <400 ps (20% to 80%)   |
| Symmetry (Duty Cycle):  | 50/50 $\pm 5\%$ @ Vcc - 1.3 V  |
| Temperature Stability:  | <b>C-416</b> - $\pm 4.1$ ppm over 0°C to +70°C (per GR-253-CORE : R5-126)<br><b>F-416</b> - $\pm 4.1$ ppm over -40°C to +85°C (per GR-253-CORE : R5-126)<br><b>NOTE:</b> Tighter stabilities and wider temperature ranges are available, please consult the factory. |
| Initial Accuracy @ +25°C:   | <b>B</b> $\pm 5$ ppm max after reflow, Total Stability <20 ppm All Causes.   |
| Aging:  | <10 ppm for ten years  |
| Jitter Generation:  | <1 ps rms from 12 kHz to 80 MHz  |
| Frequency vs. Supply:   | < $\pm 0.2$ ppm for a $\pm 5\%$ change in supply voltage   |
| Electrical Frequency Adjust:  | <b>A</b> $\pm 40$ ppm min., 0 to Vcc, positive slope (per GR-253-CORE: R5-129)   |

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### Outline Drawing



### Pin Out Information

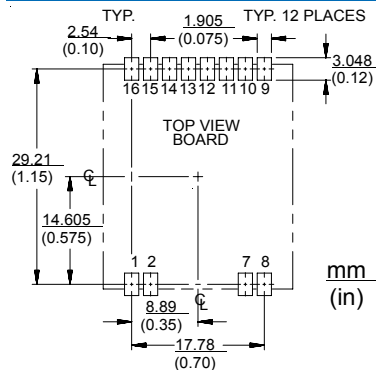
| Pin | Function   |
|-----|--|
| 1   | Electrical Frequency Adjust; 0 to Vcc. or No Connect           |
| 2   | Ground   |
| 3   | Missing  |
| 4   | Missing  |
| 5   | Missing  |
| 6   | Missing  |
| 7   | Ground   |
| 8   | Vcc - Supply Voltage   |
| 9   | Vcc - Supply Voltage   |
| 10  | Lock Detect  |
| 11  | Ground   |
| 12  | Output Signal - Q  |
| 13  | Ground   |
| 14  | Comp Output Signal - $\bar{Q}$                                 |
| 15  | Ground   |
| 16  | Enable / Disable<br>Floating = Enabled<br>Logic "0" = Disabled |

TCXO

### Standard Frequencies

|              |                      |
|--------------|----------------------|
| 311.04 MHz   | SONET                |
| 622.08 MHz   | OC-12, STM4          |
| 625.00 MHz   | 10 G / 16            |
| 644.5313 MHz | 10.3125 G / 16       |
| 666.5143 MHz | OC-12<br>FEC 15/14   |
| 669.3266 MHz | OC-12<br>FEC 255/237 |
| 777.60 MHz   | SONET                |

### Pad Layout



### Ordering Information

