

## (V)TX Series:(Voltage-Controlled) Temperature Compensation Crystal Oscillators 1.000 - 150.000MHz

### ● SPECIFICATION

|   |                       |  |      |       |        |
|---|-----------------------|--|------|-------|--------|
| Frequency Range                           |                       | 1.000 - 150.000MHz                           |      |       |        |
| Input Voltage (VDD)                       |                       | 3.3V - 5.0V                                  |      |       |        |
| Frequency Stability                       | Vs. Temperature       | ±0.5 ~ ±3.0PPM                               |      |       |        |
|   | Vs. Supply Voltage    | ±0.3PPM max / VDD ±5%                        |      |       |        |
|   | Vs. Aging             | ±1.0PPM per year                             |      |       |        |
|   | Vs. Load              | ±0.3PPM                                      |      |       |        |
| Operation Temperature                     |                       | -40°C ~ +85°C (Optional , See below )        |      |       |        |
| Storage Temperature                       |                       | -40°C ~ +85°C                                |      |       |        |
| Linearity (VCTCXO only)                   | Control Voltage Range | 1.5V±1.0V                                    |      |       |        |
|   | Pulling Range         | ±5.0PPM min. , Positive                      |      |       |        |
|   | Input Impedance       | 500KΩ min.                                   |      |       |        |
| Current Consumption                       |                       | 3~25mA max (for <30.0MHz)                    |      |       |        |
| Output Voltage                            |                       | CMOS : VOH = 90% VDD min , VOL = 10% VDD max |      |       |        |
| Symmetry                                  |                       | 45 ~ 55% at 0.5VDD                           |      |       |        |
| Load                                      |                       | 15pf   |      |       |        |
| Phase Noise (for ≤40MHz)<br>(dBc/Hz typ.) |                       | 100Hz  | 1KHz | 10KHz | 100KHz |
|   |                       | -115   | -135 | -148  | -150   |

### ● PART NUMBERING



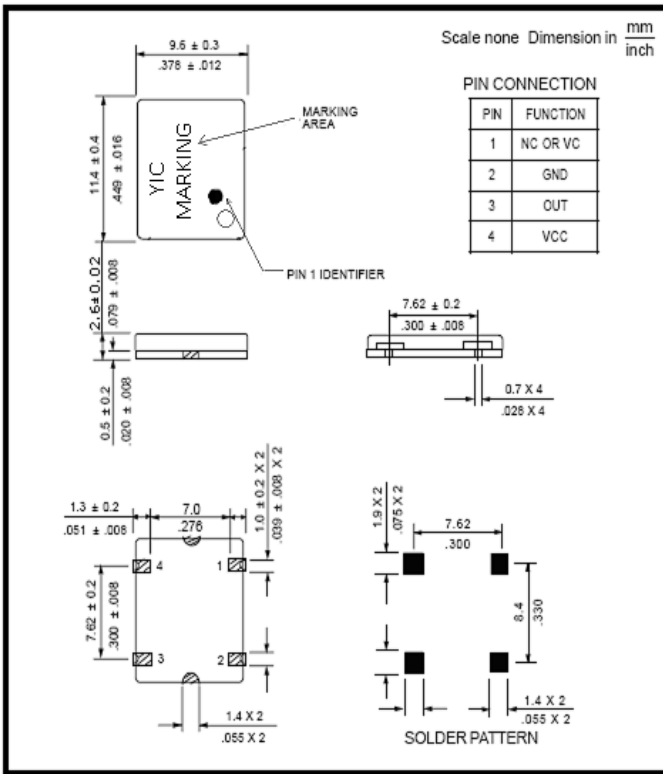
| Type       | Packing Code                  | Input Voltage | Output Code | Operation Temperature | Frequency | Stability     | Trimmer Access  | Custom Speci. |
|------------|-------------------------------|---------------|-------------|-----------------------|-----------|---------------|-----------------|---------------|
| TX:TCXO    | SMD Type:                     | 1.8 : 1.8V    | C : Clipped | 1 : -10~+60°C         | In MHz    | 0.5 : ±0.5PPM | T : With        | *             |
| VTX:VCTCXO | 11106C : 11.4x9.6x2.5(H)mm,6P | 2.5 : 2.5V    | Sine Wave   | Blank : -10~+70°C     |           | 1 : ±1.0PPM   | Trimmer         |               |
|            | 11106T : 11.4x9.6x2.5(H)mm,6P | 2.8 : 2.8V    |             | 2 : -20~+70°C         |           | 1.5 : ±1.5PPM | Blank : Without |               |
|            | 11104C : 11.4x9.6x2.5(H)mm,4P | 3 : 3V        | T : CMOS    | 27 : -20~+75°C        |           | 2 : ±2.0PPM   | Trimmer         |               |
|            | 11104T : 11.4x9.6x2.5(H)mm,4P | 3.3 : 3.3V    | Square Wave | 28 : -20~+85°C        |           | 2.5 : ±2.5PPM |                 |               |
|            | 754C : 7.0x5.0x2.3(H)mm,4P    | 5 : 5V        |             | 37 : -30~+75°C        |           | 3 : ±3.0PPM   |                 |               |
|            | 754T : 7.0x5.0x2.3(H)mm,4P    | 8 : 8V        |             | 3 : -30~+80°C         |           | 5 : ±5.0PPM   |                 |               |
|            | 534C : 5.0x3.2x1.2(H)mm,4P    | 9 : 9V        |             | 38 : -30~+85°C        |           |               |                 |               |
|            | 534T : 5.0x3.2x1.3(H)mm,4P    | 10 : 10V      |             | I : -40~+85°C         |           |               |                 |               |
|            | 324C : 3.2x2.5x1.0(H)mm,4P    | 12 : 12V      |             | A : -40~+105°C        |           |               |                 |               |
|            | 324T : 3.2x2.5x1.0(H)mm,4P    | A : 1.8~3.3V  |             | B : -40~+125°C        |           |               |                 |               |
|            | 224C : 2.5x2.0x0.8(H)mm,4P    | B : 2.5~3.3V  |             | C : -55~+125°C        |           |               |                 |               |
|            | 214C : 2.0x1.6x0.7(H)mm,4P    |               |             | D : -40~+150°C        |           |               |                 |               |
|            |                               |               |             | X : Custom            |           |               |                 |               |

#### Through-Hole Type:

2013C : 20.3x12.8x7.0(H)mm  
 2013T : 20.3x12.8x7.0(H)mm  
 1812C : 18.4x11.7x4.7(H)mm  
 1812T : 18.4x11.7x4.7(H)mm  
 1313C : 12.2x12.8x5.5(H)mm  
 1313T : 12.2x12.8x5.5(H)mm

(※ "C" for Clipped Sine Wave)  
 (※ "T" for CMOS)

● DIMENSIONS (UNIT : mm)



Pin Connections :

|       |   |
|-------|---|
| Pin 1 | Control voltage for VCTCXO , No connection for TCXO . |
| Pin 2 | Ground  |
| Pin 3 | Output  |
| Pin 4 | Input Voltage   |

