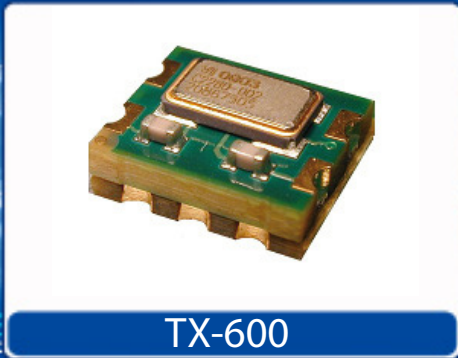



Helping Customers Innovate, Improve & Grow



Description

The TX-600 Series TCXO is designed utilizing full analog technology. Extremely low phase noise and smooth frequency vs temperature are achieved. Innovative packaging design allows for high volume manufacturing as well as low profile.

Features

- High Shock Survival > 20,000 G (TX-600)
- Commercial application (TX-601)
- Low Phase Noise, Low G-Sensitivity
- Stratum 3 Compliant
- Fully RoHS Compliant 
- Surface Mount, Low Profile
- Rugged Construction
- Frequency Range: 5 MHZ to 100 MHZ
- Previous Model: C2280

Applications

- Military Portable Radios
- GPS Telemetry
- Test and Measurement Equipment
- Wi-Max Basestations
- Wireless Communications
- Wireline Switches

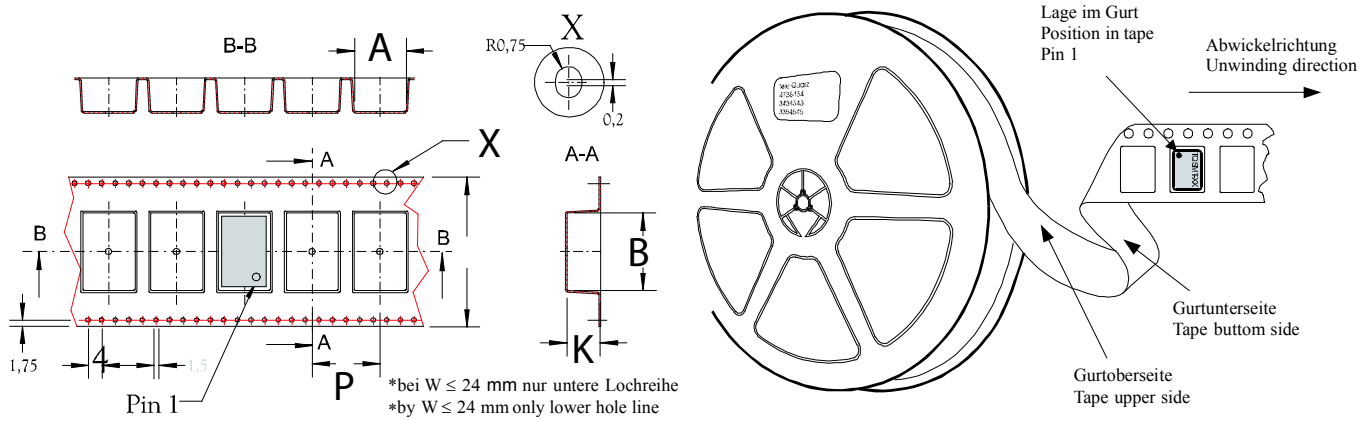
Performance Specifications

| Parameter | Min | Typ | Max | Units | Condition |
|--|-------|-----|-------|-------|--|
| Frequency Stabilities ¹ | | | | | |
| vs. operating temperature range (referenced to +25°C) | -2.0 | | +2.0 | ppm | -40... +85°C |
| | -1.0 | | +1.0 | ppm | -40... +85°C |
| | -0.5 | | +0.5 | ppm | -20... +70°C |
| | -0.28 | | +0.28 | ppm | 0... +70°C |
| Total stability | -4.6 | | +4.6 | ppm | Stratum 3, GR-1244-CORE, for all causes and 15 yrs aging |
| Initial Tolerance vs. supply voltage change vs. load change vs. aging / 1 year vs. aging | -1.0 | | +1.0 | ppm | at time of shipment, nominal EFC Vs ± 5% Load ± 10% @ +40°C for 15 years |
| | -0.1 | | +0.1 | ppm | |
| | -0.2 | | +0.2 | ppm | |
| | | ±1 | 4.0 | ppm | |
| Supply Voltage (Vs) | | | | | |
| Supply voltage | 4.75 | 5.0 | 5.25 | VDC | |
| Supply voltage | 3.135 | 3.3 | 3.465 | VDC | |
| Supply voltage | 2.7 | 2.8 | 2.9 | VDC | |

Performance Specifications

| Parameter | Min | Typ | Max | Units | Condition |
|---|------------------|--------------|-------------------------------------|--|---|
| Current consumption | | | 35 | mA | Depends on frequency |
| RF Output | | | | | |
| Signal | HCMOS | | | | |
| Load | | 15 | | pF | |
| Signal Level (Vol) | | | 0.1*Vs | V | |
| Signal Level (Voh) | 0.9*Vs | | | V | |
| Rise/Fall Time | | | 5 | ns | @ nominal Load and 10% to 90% of waveform |
| Duty cycle | 40 | 50 | 60 | % | @ nominal Load and @ 50% level |
| Tri-State (>12.8 MHz) | Active High | | | | Tristate Output standard |
| Signal | Clipped Sinewave | | | | |
| Level | | 1 | | Vpp | with Nominal Load |
| Load R | | 10 | | kohm | |
| Load C | | 10 | | pF | |
| Frequency Tuning (EFC) | | | | | |
| Tuning Range | Fixed; No adjust | | | | |
| Tuning Range | ±5.0 | | | ppm | |
| Tuning Slope | Positive | | | | |
| Control Voltage Range | 0.0 | | Vs | VDC | |
| Freq. control input impedance | 10 | | | kohm | |
| Additional Parameters¹ | | | | | |
| Reference Voltage (Vref) (1 mA source) | +3.8 +2.3 | +4.0 +2.4 | +4.1 +2.5 | VDC VDC | Vs=>+4.5 VDC Vs=>+2.7 VDC |
| Phase Noise ³ (@ 20 MHz tested under nominal operating conditions) | | | -90 -120 -140 -145 -150 | dBc/Hz dBc/Hz dBc/Hz dBc/Hz dBc/Hz | 10 Hz 100 Hz 1 kHz 10 kHz 100 kHz |
| Jitter | | | 1 | ps RMS | |
| Absolute Maximum Ratings | | | | | |
| Supply voltage (Vs) | | | 6.0 | V | Damage will occur beyond this level |
| Control Voltage | 0 | | Vs | V | |
| Operable temperature range | -45 | | +90 | °C | |
| Storage temperature range | -55 | | +105 | °C | |

Outline Drawing / Enclosure

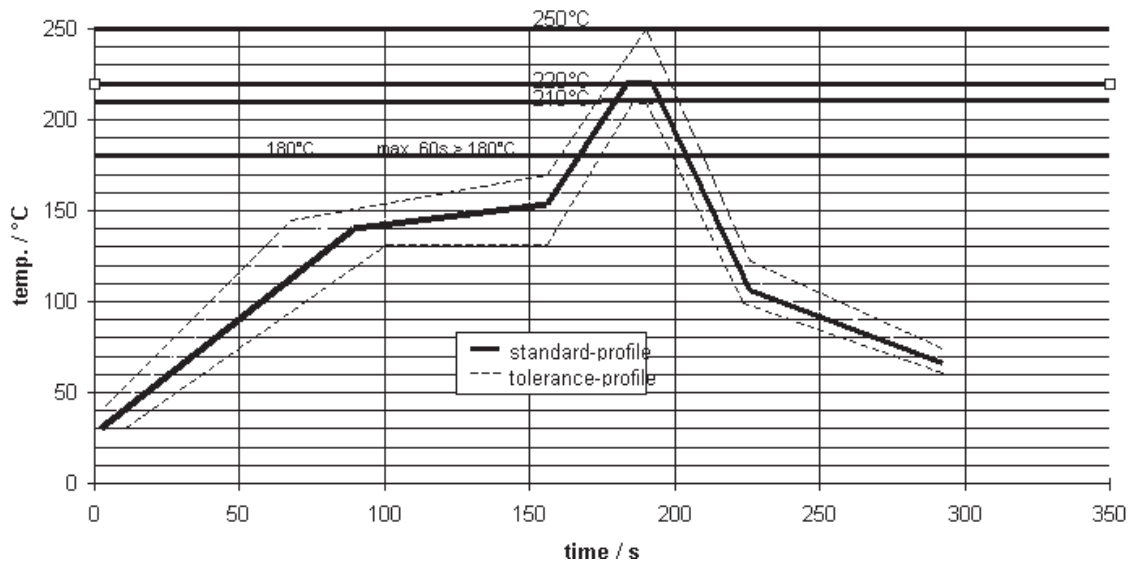


Production tolerance complying DIN IEC 286-3

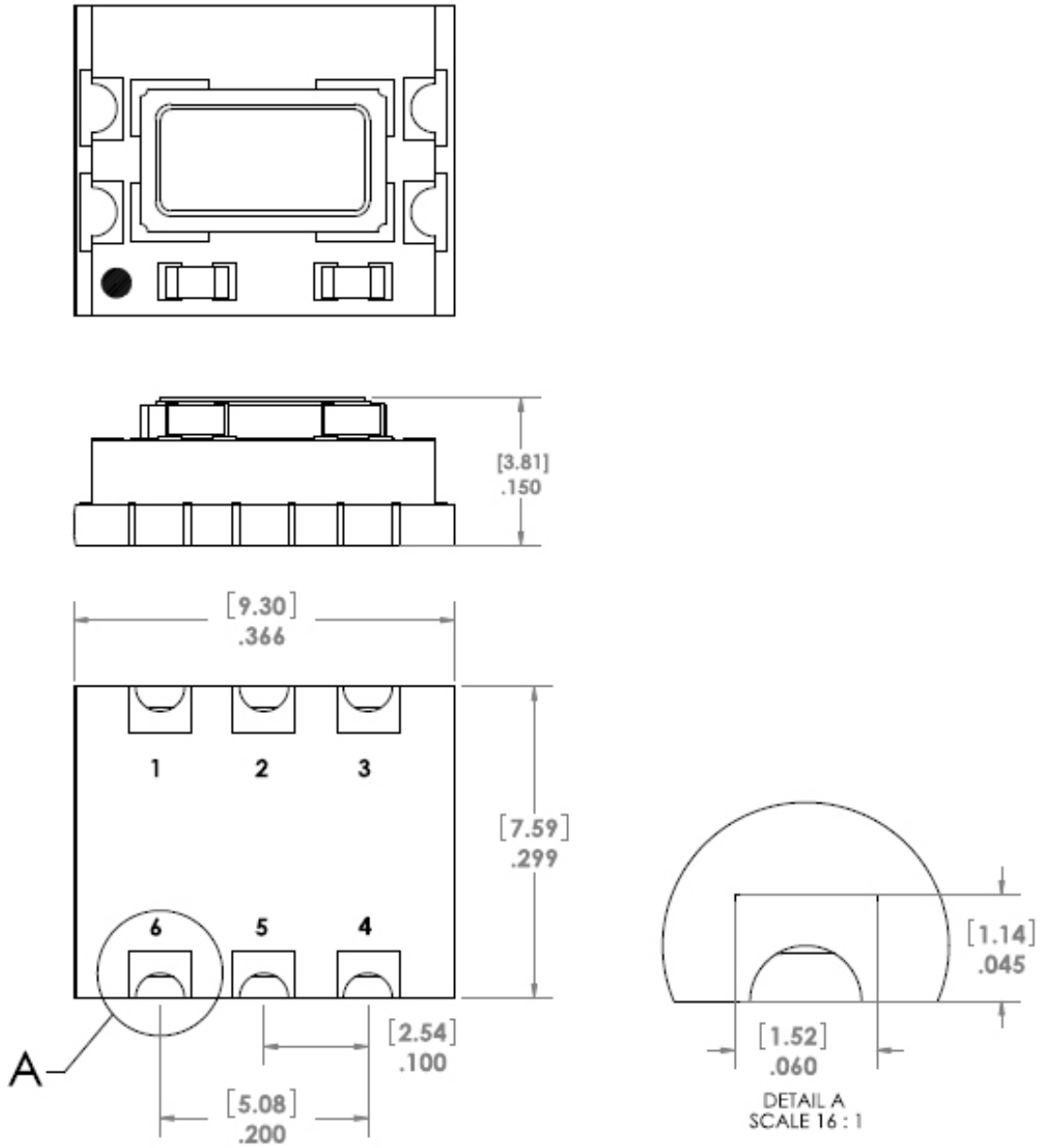
| Enclosure Type | Tape width W [mm] | Quantity per meter | Quantity per reel | Dimension P |
|----------------|-------------------|--------------------|-------------------|-------------|
| Type C | 44 | 50 | 300 | 20 |

Recommended Reflow Profile

standard-reflow-profile for SMD-oscillators



Outline Drawing / Enclosure

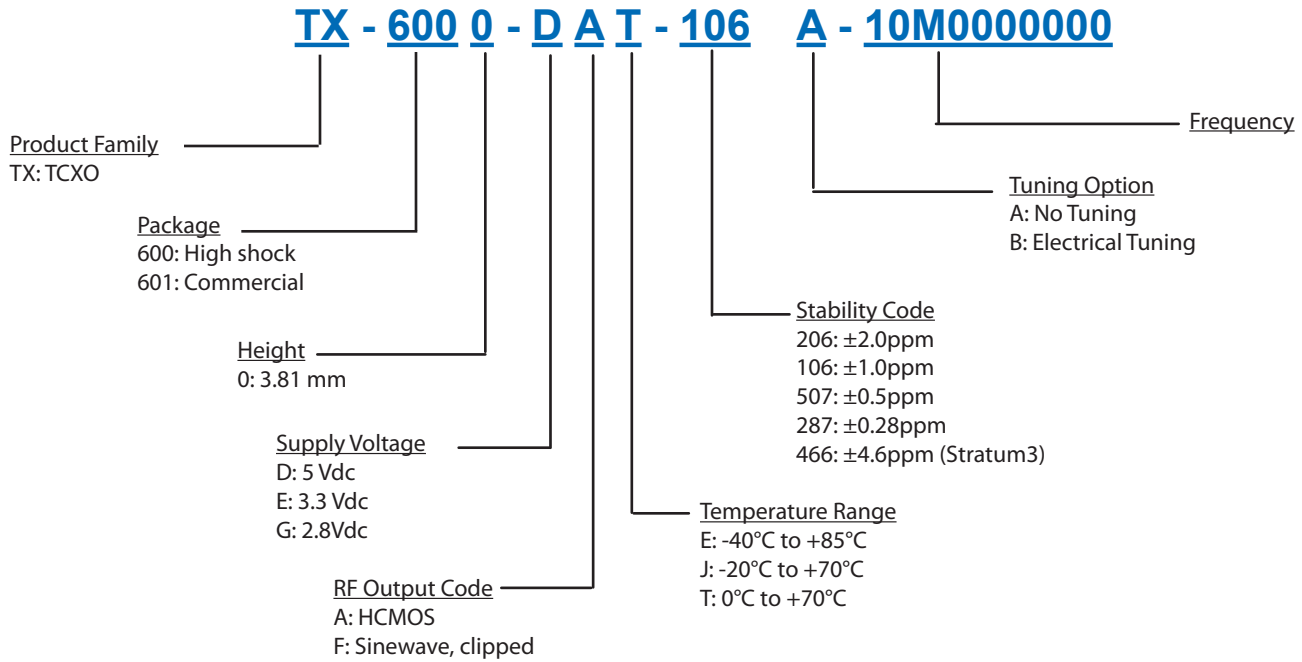


Dimensions in [mm] inches

| Type C | | |
|--------|------------|----------------|
| Code | Height "H" | Pin Length "L" |
| 0 | 3.81 mm | NA |

| Pin Connections | |
|-----------------|--------------------------|
| 1 | Voltage Control (Vc) |
| 2 | Reference Voltage (Vref) |
| 3 | Ground (Case) |
| 4 | Output |
| 5 | Enable |
| 6 | Supply Voltage (Vs) |

Ordering Information



Notes:

1. Contact factory for improved stabilities or additional product options. Not all options and codes are available at all frequencies.
2. Unless other stated all values are valid after warm-up time and refer to typical conditions for supply voltage, frequency control voltage, load, temperature (25°C).
3. Phase noise degrades with increasing output frequency.
4. Subject to technical modification.
5. Contact factory for availability.

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