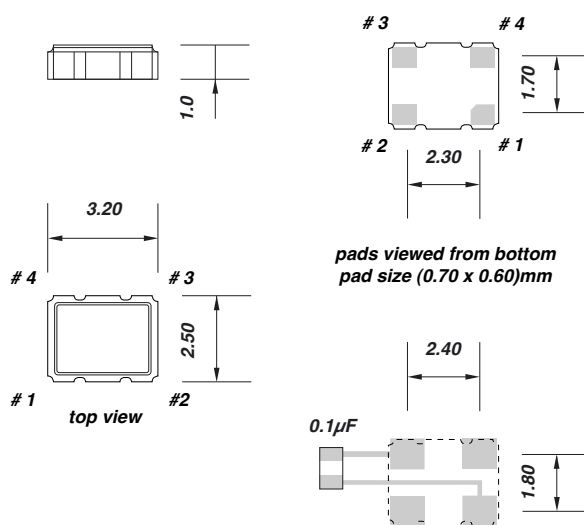


Type TX smd TCXO
(10 ~ 52)MHz, (1.8 ~ 3.3)Vd.c. supply
(3.2 x 2.5)mm, height 1.0mm
tolerance from ±0.5ppm

A miniature, low profile, smd voltage controlled TCXO manufactured over the frequency range of 10MHz to 52MHz, tolerance from ±0.5ppm, low ageing and low power consumption.

A standard package for new designs and volume applications combining small size and tight tolerance over an extended temperature range.

Supplied on tape and reel; 3000 pieces per reel, RoHS compliant.

Dimensions(mm)


- pad connections**
1 V_c : VCTCXO
ground: TCXO
2 ground
3 output
4 V_{DD}

suggested land pattern
pad size (1.0 x 0.9)mm

connect 0.1µF capacitor
between V_{DD} and ground

Frequency stability -vs- temperature:

| TEMP. RANGE | TOLERANCE | | | | |
|-------------|-----------|---------|---------|---------|---------|
| (-20 +70)°C | ±0.5ppm | ±1.0ppm | ±1.5ppm | ±2.0ppm | ±2.5ppm |
| (-30 +85)°C | ±0.5ppm | ±1.0ppm | ±1.5ppm | ±2.0ppm | ±2.5ppm |
| (-40 +85)°C | ±0.5ppm | ±1.0ppm | ±1.5ppm | ±2.0ppm | ±2.5ppm |

Electrical specification:

| | (2.8, 3.0, 3.3)Vd.c. | | 2.5Vd.c. | | 1.8Vd.c. | | |
|-----------------------------------|---|-------|------------|-------|------------|------|--------------|
| | min. | max. | min. | max. | min. | max. | |
| supply voltage ±5% | 2.66 | 3.465 | 2.375 | 2.625 | 1.71 | 1.89 | Vd.c. |
| frequency range | (10 ~ 52)MHz | | | | | | MHz |
| standard frequencies | 16.367667, 16.368, 16.369, 19.20, 20.0, 26.0, 38.40 | | | | | | MHz |
| standard frequency tolerance* | ±2.0 | | | | | | ppm |
| frequency stability vs supply ±5% | - | ±0.2 | - | ±0.2 | ±0.2 | ±0.2 | ppm |
| frequency stability vs load ±10% | - | ±0.2 | - | ±0.2 | ±0.2 | ±0.2 | ppm |
| frequency stability vs ageing | - | ±1.0 | - | ±1.0 | - | ±1.0 | ppm per year |
| supply current: (10 ~ 26)MHz | - | 2.0 | - | 2.0 | - | 2.0 | mA |
| supply current: (26 ~ 52)MHz | - | 2.5 | - | 2.5 | - | 2.5 | mA |
| output level clipped sine wave | 0.8 | - | 0.8 | - | 0.8 | - | Vp-p |
| load | 10KΩ//10pF | | 10KΩ//10pF | | 10KΩ//10pF | | |
| V_c voltage control range | 0.5 | 2.5 | 0.4 | 2.4 | 0.3 | 1.5 | V |
| pulling range | ±5 | | ±5 | | ±5 | | ppm |
| V_c input impedance | 500 | | 500 | | 500 | | KΩ |
| phase noise @19.2MHz +100Hz | -115 | | -115 | | -115 | | dBc/Hz |
| phase noise @19.2MHz +1kHz | -135 | | -135 | | -135 | | dBc/Hz |
| phase noise @19.2MHz +10kHz | -148 | | -148 | | -148 | | dBc/Hz |
| start up time | - | 2 | - | 2 | - | 2 | milli sec |
| storage temperature range | (-40 +85)°C | | | | | | °C |

* frequency at +25°C one hour after reflow

Ordering information

| | |
|----------------------------|--|
| EXAMPLE | <i>type TX smd TCXO, +1.8Vd.c., 19.20MHz, ±5.0ppm, ±2.0ppm(-20 +70)°C</i> |
| TFC PART NUMBER | TX 19.20M K A C C |
| TX | <i>type: TX = TCXO type TX</i> |
| 19.20M | <i>frequency: 19.20MHz, frequency range (10 ~ 52)MHz</i> |
| K | <i>supply voltage: K = +1.8Vd.c.</i> |
| A | <i>pulling range A: = ±5.0ppm</i> |
| C | <i>frequency stability: C = ±2ppm</i> |
| C | <i>temperature range: C = (-20 +70)°C</i> |
| OPTIONS | |
| supply voltage | <i>K: +1.8Vd.c., J: (+2.4 ~ +2.7)Vd.c., E: (+2.8 ~ +3.3)Vd.c.</i> |
| pulling range | <i>A: ±5ppm, B: ±8ppm, C: ±10ppm</i> |
| frequency stability | <i>A: ±0.5ppm, B: ±1.0ppm, P: ±1.5ppm, C: ±2.0ppm, D: ±2.5ppm</i> |
| temperature range | <i>B: (0 +55)°C, I: (-10 +60)°C, C: (-20 +70)°, D: (-30 +85)°C, L: (-40 +85)°C</i> |