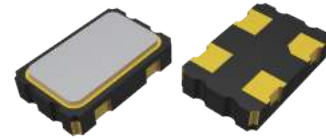


Crystal Oscillator, Series FCO-5C

SMD Crystal Oscillator 5.0×3.2 mm

FEATURE

- Typical 5.0×3.2×1.2mm ceramic SMD package
- Tight symmetry (45 to 55%) available
- Operation voltage: 1.8V, 2.5V, 3.3V
- Realize the standby function with Tri-State
- RoHS compliant / Pb-free

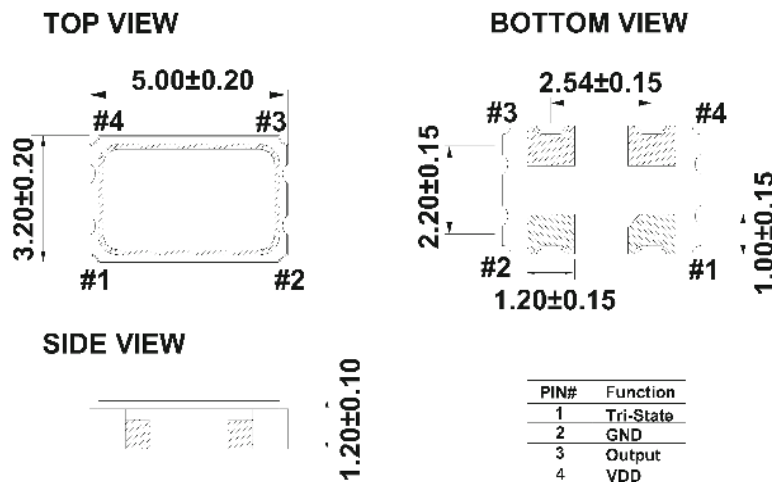


ELECTRICAL SPECIFICATIONS

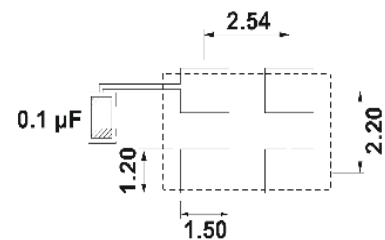
| Item | Specifications | | | | | | Unit |
|---|---|------|--------|------|--------|------|------|
| | 3.3V | | 2.5V | | 1.8V | | |
| Parameter | Min. | Max. | Min. | Max. | Min. | Max. | |
| Supply Voltage Variation | 2.97 | 3.63 | 2.25 | 2.75 | 1.62 | 1.98 | V |
| Frequency Range | 0.0137 | 160 | 0.0137 | 160 | 0.0137 | 135 | MHz |
| Standard Frequency | 2,048, 25, 26, 27, 50, 66.667, 100, 125 | | | | | | MHz |
| Supply Current | 13.7kHz≤FO<93kHz | - | 1 | - | 1 | - | mA |
| | 0.3125MHz≤FO<50MHz | - | 10 | - | 8 | - | |
| | 40 MHz≤FO<75MHz | - | 20 | - | 18 | - | |
| | 75 MHz≤FO<135MHz | - | 35 | - | 30 | - | |
| Transition Time : | 135 MHz≤FO | - | 45 | - | 40 | - | nSec |
| | 13.7kHz≤FO<93kHz | - | 50 | - | 50 | - | |
| | 0.3125MHz≤FO<100MHz | - | 5 | - | 5 | - | |
| | 100MHz≤FO | - | 3 | - | 3 | - | |
| Output Level (CMOS) | Out High(Logic"1") | 2.97 | - | 2.25 | - | 1.62 | V |
| | Out Low(Logic"0") | - | 0.33 | - | 0.25 | - | |
| Start Time | - | 5 | - | 5 | - | 5 | mSec |
| Tri-State (Input to Pin 1) | Enable(High Voltage or floating) | 2.31 | - | 1.75 | - | 1.26 | V |
| | Disable(Low Voltage or GND) | - | 0.99 | - | 0.75 | - | |
| Period Jitter (Pk-Pk) | - | 40 | - | 40 | - | 40 | pSec |
| RMS Phase Jitter (integrated12kHz to 20MHz) | - | 1 | - | 1 | - | 1 | pSec |
| Standby Current | - | 10 | - | 10 | - | 10 | μA |
| Aging(@25 1st year) | - | ±3 | - | ±3 | - | ±3 | ppm |
| Storage Temp. Range | -55 | 125 | -55 | 125 | -55 | 125 | °C |

Standard frequencies are frequencies which the crystal has been designed and does not imply a stock position.
+ Transition times are measured between 10% and 90% of VDD, with an output load of 15pF.

DIMENSION (mm)



SOLDER PAD LAYOUT(mm)



To ensure optimal oscillator performance, place a by-pass capacitor of 0.1μF as close to the part as possible between Vdd and GND pads

| PIN# | Function |
|------|-----------|
| 1 | Tri-State |
| 2 | GND |
| 3 | Output |
| 4 | VDD |

FREQ. STABILITY vs. TEMP. RANGE

| Temp. (°C) | ppm | | |
|------------|-----|-----|-----|
| | ±20 | ±25 | ±50 |
| -10 ~ +60 | ○ | ○ | ○ |
| -20 ~ +70 | △ | ○ | ○ |
| -40 ~ +85 | △ | ○ | ○ |
| -40 ~ +125 | x | x | ○ |

○: Available △: Conditional x: Not available

Inclusive of calibration @ 25 °C, operating temperature range, input voltage variation, load variation, aging (1st year), shock, and vibration