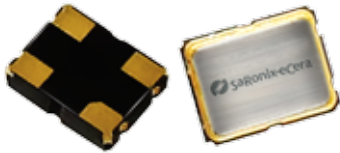


3.3V CMOS Low Jitter XO

FM


2.0 x 1.6mm Ceramic SMD

Product Features

- 1-50 MHz Frequency Range
- <1 ps RMS jitter
- 3.3V CMOS compatible logic levels
- Designed for standard reflow and washing techniques
- Low power standby mode: 10µA max
- Pb-free and RoHS/Green compliant

Product Description

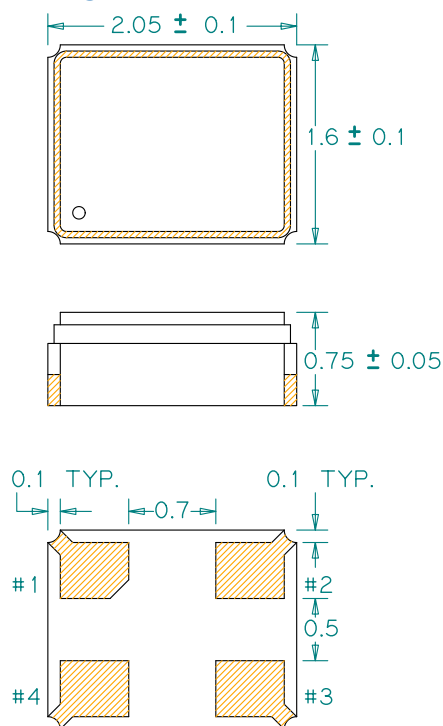
The FM Series crystal clock oscillator achieves superb jitter and stability over a broad range of operating conditions and frequencies. The output clock signal, generated internally with a non-PLL oscillator design, is compatible with LVCMOS logic levels. The device, available on tape and reel, is contained in a 2.0 x 1.6 mm surface-mount ceramic package.

Applications

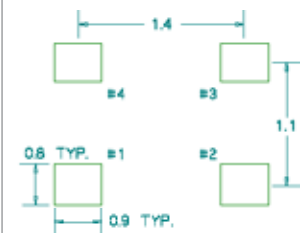
Ideal for compact, high density applications:

- WLAN
- HBA
- Portable Multimedia Player (PMP)
- Notebook Computer
- SDIO/ PCMCIA card
- USB BT Interface
- Bluetooth

Package:



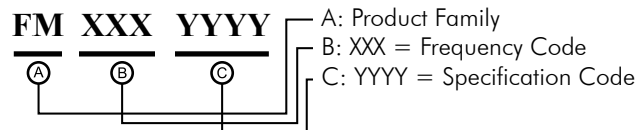
Recommended Land Pattern:



Pin Functions:

| Pin | Function |
|-----|-----------------|
| 1 | ED |
| 2 | Ground |
| 3 | Clock Output |
| 4 | V _{CC} |

Part Ordering Information:



Following the above format, Saronix-eCera part numbers will be assigned upon confirmation of exact customer requirements.

Electrical Performance

| Parameter | Min. | Typ. | Max. | Units | Notes |
|---------------------------------|---------------------|------|---------------------|-------------|---------------------------------|
| Output Frequency | 1 | | 50 | MHz | |
| Supply Voltage | 2.97 | 3.30 | 3.63 | V | |
| Supply Current, Output Enabled | | | 5 | mA | 1 - 50 MHz |
| Supply Current, Standby Mode | | | 10 | A | Output Hi-Z |
| Frequency Stability | | | ±20 to ±50 | ppm | See Note 1 below |
| Operating Temperature Range | -20 | | +70 | °C | Commercial (standard) |
| | -40 | | +85 | | |
| Output Logic 0, V _{OL} | | | 10% V _{DD} | V | Industrial (standard) |
| Output Logic 1, V _{OH} | 90% V _{DD} | | | V | |
| Output Load | | | 15 | pF | output requires termination |
| Duty Cycle | 45 | | 55 | % | Measured 50% of V _{DD} |
| Rise and Fall Time | | | 7 | ns | Measured 20/80% of waveform |
| Jitter, Phase | | | 1 | ps RMS(1-σ) | 10kHz to 20 MHz frequency band |
| Jitter, Accumulated | | | 5 | ps RMS(1-σ) | 20,000 adjacent periods |
| Jitter, Total | | | 50 | ps pk-pk | 100,000 random periods |

Notes:

1. Stability includes all combinations of operating temperature, load changes, rated input (supply) voltage changes, initial calibration tolerance (25°C), aging (5 year at 40°C average effective ambient temperature), shock and vibration.
2. For specifications other than those listed, please contact sales.

Output Enable / Disable Function

| Parameter | Min. | Typ. | Max. | Units | Notes |
|---|---------------------|------|---------------------|-------|----------------|
| Input Voltage (pin 1), Output Enable | 0.7 V _{DD} | | | V | or open |
| Input Voltage (pin 1), Output Disable (low power standby) | | | 0.3 V _{DD} | V | Output is Hi-Z |
| Internal Pullup Resistance | 30 | | | kΩ | |
| Output Disable Delay | | | 100 | ns | |
| Output Enable Delay | | | 10 | ms | |

Absolute Maximum Ratings

| Parameter | Min. | Typ. | Max. | Units | Notes |
|---------------------|------|------|------|-------|-------|
| Storage Temperature | -55 | | +125 | °C | |

For the latest product information visit: <http://www.pericom.com/products/timing/oscillators/FM.3.3/>

For test circuit go to: http://www.pericom.com/pdf/sre/tc_hcm0s2.pdf

For soldering reflow profile and reliability test ratings go to: <http://www.pericom.com/pdf/sre/reflow2.pdf>

For tape and reel information go to: http://www.pericom.com/pdf/sre/tr_2016.pdf

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