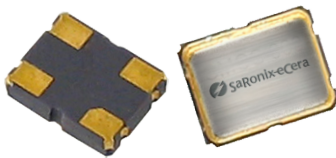


# 1.8V CMOS Low Jitter XO

**FK**



3.2 x 2.5mm Ceramic SMD

### Product Features

- 1 to 156.25 MHz Frequency Range
- <1 ps RMS jitter
- 1.8V CMOS compatible logic levels
- Designed for standard reflow and washing techniques
- Low power standby mode
- Pb-free and RoHS/Green compliant

### Product Description

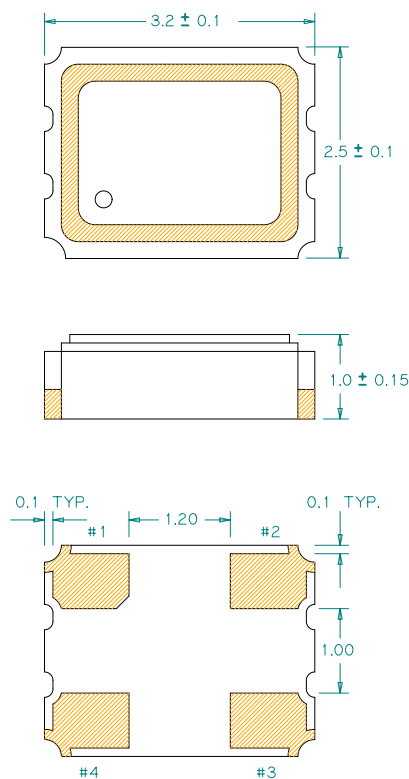
The FK Series 1.8V crystal clock oscillator achieves superb stability and low power consumption over a broad range of operating conditions and frequencies. The low jitter output clock signal, generated internally with a non-PLL oscillator design, is compatible with LVCMOS logic levels. The device, available on tape and reel, is contained in a 3.2 x 2.5mm surface-mount ceramic package.

### Applications

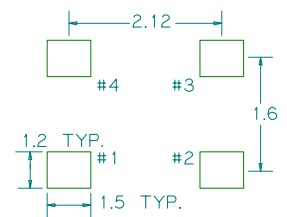
Ideal for compact, high-density applications requiring low power or tight stability, including:

- Network adapter cards
- Portable Multimedia Devices
- Hard Disk Drives
- GPS/Navigation
- Bluetooth
- 802.11a/b/g WiFi

### Package:



### Recommended Land Pattern:

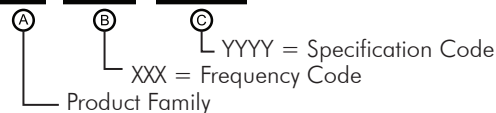


### Pin Functions:

| Pin | Function        |
|-----|-----------------|
| 1   | OE              |
| 2   | Ground          |
| 3   | Clock Output    |
| 4   | V <sub>DD</sub> |

### Part Ordering Information:

**FK XXX YYYY**



### Electrical Performance

| Parameter                       | Min.                | Typ. | Max.                | Units        | Notes                          |
|---------------------------------|---------------------|------|---------------------|--------------|--------------------------------|
| Output Frequency                | 1                   |      | 156.25              | MHz          | As specified                   |
| Supply Voltage                  | 1.62                | 1.8  | 1.98                | V            |                                |
| Supply Current, Output Enabled  |                     |      | 4                   | mA           | 1 to 36 MHz                    |
|                                 |                     |      | 7                   |              | 36 to 50 MHz                   |
|                                 |                     |      | 10                  |              | 50 to 70 MHz                   |
|                                 |                     |      | 20                  |              | 70 to 156.25 MHz               |
| Supply Current, Standby Mode    |                     |      | 10                  | μA           | Output Hi-Z                    |
| Frequency Stability             |                     |      | ±20 to ±50          | ppm          | See Note 1 below               |
| Operating Temperature Range     | -20                 |      | +70                 | °C           | Commercial (standard)          |
|                                 | -40                 |      | +85                 |              | Industrial (standard)          |
| Output Logic 0, V <sub>OL</sub> |                     |      | 10% V <sub>DD</sub> | V            |                                |
| Output Logic 1, V <sub>OH</sub> | 90% V <sub>DD</sub> |      |                     | V            |                                |
| Output Load                     |                     |      | 15                  | pF           |                                |
| Duty Cycle                      | 45                  |      | 55                  | %            | Measured 50% V <sub>DD</sub>   |
| Rise and Fall Time              |                     |      | 5                   | ns           | Measured 10/90% of waveform    |
| Jitter, Phase                   | 1 to 156.25 MHz     |      | 1                   | ps RMS (1-σ) | 12kHz to 20 MHz frequency band |
| Jitter, Accumulated             | up to 75 MHz        |      | 5                   | ps RMS (1-σ) | 20.000 adjacent periods        |
|                                 | 75 to 156.25 MHz    |      | 3                   |              |                                |
| Jitter, Total                   | up to 75 MHz        |      | 50                  | ps pk-pk     | 100.000 random periods         |
|                                 | 75 to 156.25 MHz    |      | 30                  |              |                                |

#### Notes:

- Stability includes all combinations of operating temperature, load changes, rated input (supply) voltage changes, initial calibration tolerance (25°C), aging (1 year at 25°C average effective ambient temperature), shock and vibration.
- 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 <sub>DD</sub> |      |                     | V     | or open        |
| Input Voltage (pin 1), Output Disable (low power standby) |                     |      | 0.3 V <sub>DD</sub> | V     | Output is Hi-Z |
| Internal Pullup Resistance                                | 50                  |      |                     | kΩ    |                |
| Output Disable Delay                                      |                     |      | 200                 | 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/FK1.8/>

For test circuit go to: [http://www.pericom.com/pdf/sre/tc\\_hcm052.pdf](http://www.pericom.com/pdf/sre/tc_hcm052.pdf)

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

For tape and reel information go to: [http://www.pericom.com/pdf/sre/tr\\_3225\\_xo.pdf](http://www.pericom.com/pdf/sre/tr_3225_xo.pdf)

# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Diodes Incorporated:](#)

[FK0100001](#)