



Features and Benefits

- Frequency Range 8 MHz to 250 MHz
- 5.0 mm x 3.2 mm ceramic hermetically sealed package
- ±50 ppm total stability over -20°C to +70°C
- Available ±25 ppm total stability over -40°C to +85°C (depends on operating frequency)
- Low phase jitter: <1 pS (0.6 pS, typical) RMS
- CMOS outputs
- 2.5V or 3.3V supply
- Tri-state enable / disable

Typical Applications

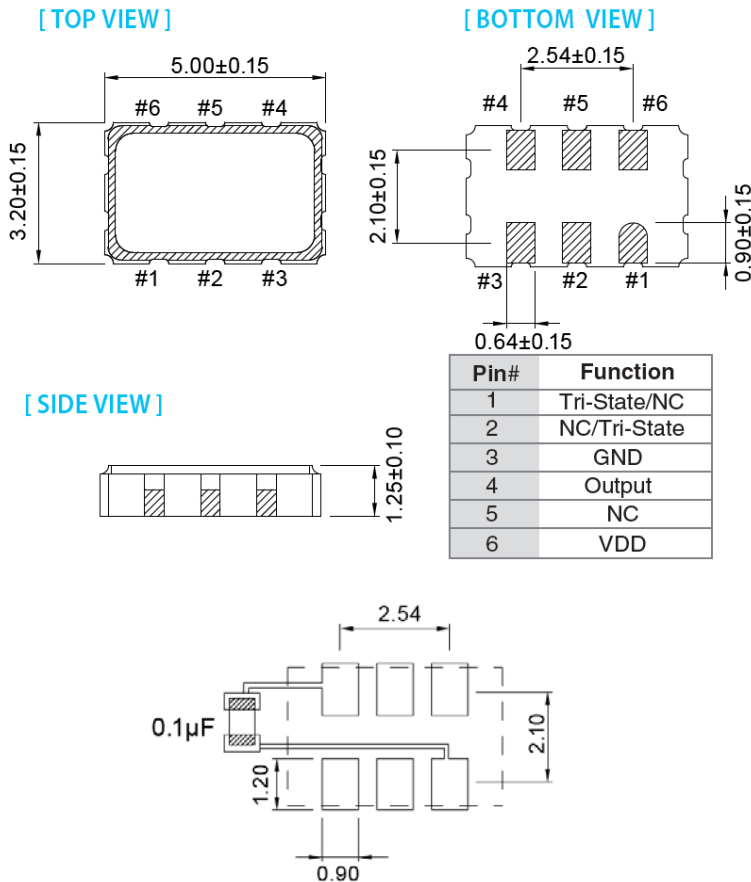
- Fiber Channel, Storage Area Network, High-Speed Gigabit Ethernet, SONET
- Smart Grid
- Enterprise Server, SAS / SATA
- Microprocessor / DSP / FPGA
- Broadband Access

Description

A new generation of low jitter clock oscillators with the latest low noise integrated circuit topologies.

Mechanical Drawing & Pin Connections

Drawing No: MD160023-1



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.



Specifications

| General Specifications | | | | |
|--|--|---------|-------------|-------------|
| Output Logic Type | CMOS | | | |
| Parameter | 2.5V | | 3.3V | |
| | Min. | Max. | Min. | Max. |
| Frequency Range | 8 MHz | 250 MHz | 8 MHz | 250 MHz |
| Standard Frequency | 106.25MHz, 125.00MHz, 133.33MHz, 150.00MHz, 155.52MHz, 158.25MHz, 187.50MHz, 212.50MHz | | | |
| Power Supply Voltage (V _{DD}) ±5% | 2.375V | 2.625V | 3.135V | 3.465V. |
| Supply Current 8 MHz ≤ F _o ≤ 250 MHz | - | 30 mA | - | 30 mA |
| Output "High" Voltage; V _{OH} | 2.25V | - | 2.97V | - |
| Output "Low" Voltage; V _{OL} | - | 0.25V | - | 0.33V |
| Tri-State (Input to Pin 2 or Pin 1) Enable (High voltage or floating) Disable (Low voltage or GND) | 1.75V | - | 2.31V | - |
| | - | 0.75V | - | 0.99V |
| Phase Noise @ 125 MHz | 100 Hz | - | -75 dBc/Hz | -75 dBc/Hz |
| | 1 kHz | - | -105 dBc/Hz | -105 dBc/Hz |
| | 10 kHz | - | -120 dBc/Hz | -120 dBc/Hz |
| Storage Temp. Range | -55°C | +125°C | -55°C | +125°C |
| RMS Phase Jitter (Integrated 12 kHz – 20 MHz) | 1.0 pSmax | | | |
| Frequency Stability | ±50 ppm over -20°C to +70°C or -40°C to +85°C ±25 ppm over -20°C to +70°C ±25 ppm over -40°C to +85°C (depends on operating frequency; case by case) | | | |
| Rise Time (Tr)/Fall Time (Tf) (20% V _{DD} – 80% V _{DD}) | 1.5 nS. Max. | | | |
| Start-up Time | 10 ms max. | | | |
| Aging (first year at 25°C) | ±3 ppm max. | | | |

| Stability vs. Temperature Range Availability | | |
|--|-------------------|---|
| | Temperature Range | |
| Stability in ppm | -20°C to +70°C | -40°C to +85°C |
| ±50 | Available | Available |
| ±25 | Available | Conditional (depends on operating frequency; case by case) |

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