

MV-XC510-5032G is a Crystal Oscillator (XO) . This XO provides low jitter performance, CMOS output and comes in a Hermetic Ceramic 5.0x3.2mm package. This device contains an internal voltage regulator resulting in excellent power supply rejection ratio.

The device is qualified to meet the JEDEC standard for Pb-Free assembly and compliant to the RoHS directive.

Electrical Performance

| Parameter | Min | Typ | Max | Units |
|---------------------------------------|-----------|------------------|-----------|--------|
| General | | | | |
| Output Frequency | 10 | | 250 | MHz |
| Operating Temperature | | -10/+70 -40/+85 | | °C |
| Stability Over Temperature | | ±100 ±50 ±25 ±20 | | ppm |
| Start Up Time | | | 10 | ms |
| Package Size | | 5.0 x 3.2 x 1.3 | | mm |
| Supply | | | | |
| Supply Voltage (Vdd) | | 3.3 2.5 | | V |
| Supply Current | | 24 | | mA |
| Current, Output Disabled | | 16 | | mA |
| Output | | | | |
| Output Signal | | CMOS | | |
| Output Logic Level | | | | |
| Output Level - Logic High | Vdd x 0.9 | | | V |
| Output Level - Logic Low | | | Vdd x 0.1 | V |
| Output Load | | 15 pF | | |
| Output Rise and Fall Time | 0.300 | | 0.600 | ns |
| Duty Cycle | 48 | | 52 | % |
| Enable / Disable | | | | |
| Output Enable / Disable | | | | |
| Output Enabled | Vdd x 0.7 | | | V |
| Output Disabled | | | Vdd x 0.3 | V |
| Phase Noise & Jitter | | | | |
| Phase Noise: (125 MHz) | | | | |
| 10 Hz offset | | -62 | | dBc/Hz |
| 100 Hz offset | | -96 | | dBc/Hz |
| 1kHz offset | | -111 | | dBc/Hz |
| 10kHz offset | | -123 | | dBc/Hz |
| 100kHz offset | | -127 | | dBc/Hz |
| 1MHz offset | | -138 | | dBc/Hz |
| 10MHz offset | | -155 | | dBc/Hz |
| Jitter | | | | |
| RMS Jitter: (12kHz - 20MHz) - 125 MHz | | 0.6 ps | | ps |

Notes:

- 1 Stability includes initial accuracy, operating temperature, supply voltage, shock and vibration (not under operation) and aging
- 2 Rise and Fall times measured from 20% to 80% of a full output swing
- 3 Power Supply pin should be filtered. e.g. 0.1µF or 0.01 µF Capacitor for optimal performance.
- 4 The Output is Enabled if the Enable/Disable is left open.

Maximum Ratings

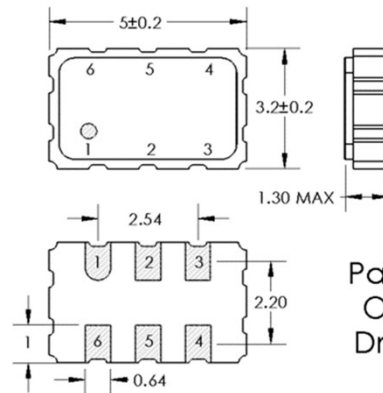
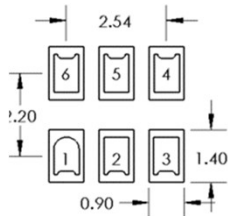
| | |
|------------------------|------------------|
| Storage Temp | -55°C to 125°C |
| Supply Voltage | 4.2 |
| Enable/Disable Voltage | -0.5 to Vdd +0.5 |
| Junction Temperature | +125 °C |

Maximum Ratings Notes:

- 1 Stresses in excess of the absolute maximum ratings can permanently damage the device.
- 2 Exposure to absolute maximum ratings for extended periods may adversely affect device reliability.

Package Information

| Pin # | Function |
|-------|------------------------------|
| Pin 1 | E/D = Enable / Disable or NC |
| Pin 2 | E/D = Enable / Disable or NC |
| Pin 3 | GND = Ground |
| Pin 4 | OUT = Output |
| Pin 5 | C-OUT = Complimentary Output |
| Pin 6 | Vdd = Supply Voltage |

Pad Layout

Package Outline Drawing
Handling and Construction

| | |
|--------------------------|------------------|
| Package Construction | Hermetic Ceramic |
| Contact Pads | Gold over Nickle |
| Moisture Sensivity Level | MSL 1 |
| ESD, Human Body Model | 500V |
| ESD, Charge Device Model | 500V |

Ordering Information
MV-XC510-5032G -

XO, CMOS

5.0 x 3.2 x 1.3mm, 6 Pins

X X X X

① ② ③ ④

- xxMxxxxx

Frequency

① Voltage

 B: 3.3 V
 D: 2.5 V

② Temp Range

 J: -10/+70 °C
 K: -40/+85 °C

③ Temp Stability

 A: ±100 ppm
 C: ±50 ppm
 E: ±25 ppm
 F: ±20 ppm

④ Enable

 1: Enable on Pin 1
 2: Enable on Pin 2