

MV-XP161-5032G is a Crystal Oscillator (XO) . This XO provides low jitter performance, LV-PECL 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 | 13.5 | | 250 | MHz |
| Operating Temperature | -10/+70 -40/+85 -40/+105 -40/+125 | | | °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 | 46 | | | mA |
| Current, Output Disabled | 10 | | | µA |
| Output | | | | |
| Output Signal | LV-PECL | | | |
| Output Logic Level | | | | |
| Output Level - Logic High | Vdd-1.025 | Vdd-0.950 | Vdd-0.880 | V |
| Output Level - Logic Low | Vdd-1.810 | Vdd-1.700 | Vdd-1.620 | V |
| Output Load | 50 Ω into Vdd-2V | | | |
| Output Rise and Fall Time | 0.3 | | | ns |
| Duty Cycle | 45 | | 55 | % |
| Enable / Disable | | | | |
| Output Enable / Disable | | | | |
| Output Enabled | Vdd x 0.7 | | | V |
| Output Disabled | Vdd x 0.3 | | | V |
| Phase Noise & Jitter | | | | |
| Phase Noise: (100 MHz) | | | | |
| 10 Hz offset | -70 | | | dBc/Hz |
| 100 Hz offset | -102 | | | dBc/Hz |
| 1kHz offset | -130 | | | dBc/Hz |
| 10kHz offset | -144 | | | dBc/Hz |
| 100kHz offset | -148 | | | dBc/Hz |
| 1MHz offset | -153 | | | dBc/Hz |
| 10MHz offset | -159 | | | dBc/Hz |
| Jitter | | | | |
| RMS Jitter: (12kHz - 20MHz) - 100 MHz | 0.13 | | | 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

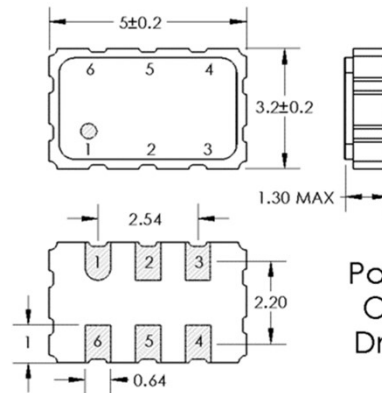
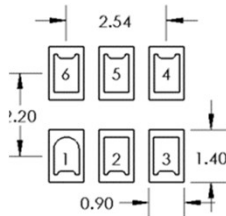
| | |
|------------------------|-------------------|
| Storage Temp | -55°C to 125°C |
| Supply Voltage | -0.5V to +5.0V |
| Enable/Disable Voltage | -0.5V to Vdd+0.5V |
| Junction Temperature | +150 °C |

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 |

Package and Assembly Notes:
Pad Layout

Package Outline Drawing
Handling and Construction

| | |
|----------------------------|--|
| Package Construction | Hermetic Ceramic |
| Contact Pads | Gold over Nickle |
| Pad Metal Thickness | Gold (0.3µm min - 1.0µm max) over Nickel |
| Moisture Sensitivity Level | MSL 1 |
| ESD, Human Body Model | 1500V |
| ESD, Charge Device Model | 1000V |

Ordering Information

MV-XP161-5032G -

XO, LV-PECL
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
L: -40/+105 °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

Part Number Configuration Notes:

- 1 Duty Cycle above 85°C = 40% to 60%