

MV-XP310-7050G is a Crystal Oscillator (XO) . This XO provides low jitter performance, LV-PECL output and comes in a Hermetic Ceramic 7.0x5.0mm 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	12.5		220	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	7.0 x 5.0 x 1.7			mm
Supply				
Supply Voltage (Vdd)	3.14	3.3	3.47	V
Supply Current				
<175 MHZ		60	71	mA
>175 MHZ		64	80	mA
Supply Voltage (Vdd)	2.38	2.5	2.63	V
Supply Current				
<175 MHZ		56	66	mA
>175 MHZ		58	74	mA
Current, Output Disabled			30	µA
Output				
Output Signal	LV-PECL			
Output Logic Level				
Output Level - Logic High	Vdd-1.040	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		0.25	0.6	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: (156.25 MHz)				
10 Hz offset		-70		dBc/Hz
100 Hz offset		-104		dBc/Hz
1kHz offset		-133		dBc/Hz
10kHz offset		-148		dBc/Hz
100kHz offset		-154		dBc/Hz
1MHz offset		-155		dBc/Hz
10MHz offset		-157		dBc/Hz
Jitter				
RMS Jitter: (12kHz - 20MHz) - 156.25 MHz		0.09		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

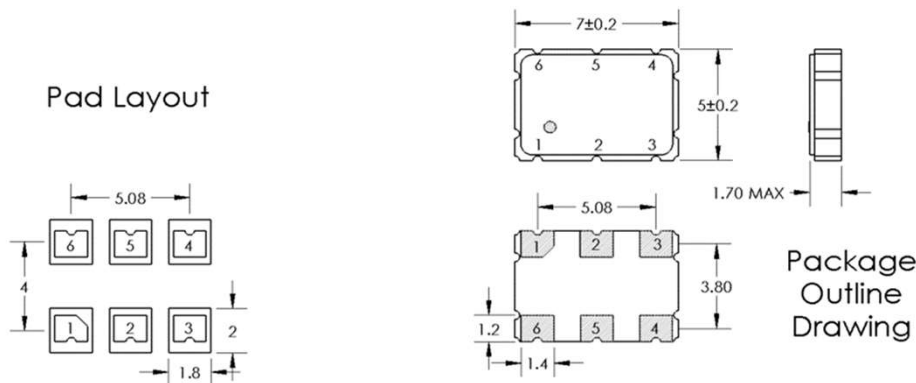
Storage Temp	-55°C to 150°C
Supply Voltage	-0.3V to +4.0V
Enable/Disable Voltage	-0.3V to Vdd+0.3V
Junction Temperature	+150 °C

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


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	1500V

Ordering Information

MV-XP310-7050G -

XO, LV-PECL
7.0 x 5.0 x 1.7mm, 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