MV-XP315-5032G

Crystal Oscillator (XO)
5.0 x 3.2mm - LV-PECL

MV-XP315-5032G 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	100		320	MHz
Operating Temperature		-10/+70 to -55/+125		°C
Frequency Stability				
Stability Over Temperature		±100 to ±20		ppm
Start Up Time			10	ms
Package Size		5.0 x 3.2 x 1.3		mm
Supply				
Supply Voltage (Vdd)		+2.5 to +3.3		V
Supply Current		50	65	mA
Current, Output Disabled			30	µA
Output				
Output Signal		LV-PECL		
Output Logic Level				
Output Level - Logic High	Vdd-1.085	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		0.15	0.4	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		-78		dBc/Hz
100 Hz offset		-108		dBc/Hz
1kHz offset		-137		dBc/Hz
10kHz offset		-153		dBc/Hz
100kHz offset		-158		dBc/Hz
1MHz offset		-161		dBc/Hz
10MHz offset		-162		dBc/Hz
Jitter				
RMS Jitter: (12kHz - 20MHz) - 156.25 MHz		0.05		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:

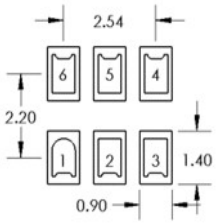
1 Stresses in excess of the absolute maximum ratings can permanently damage the device.

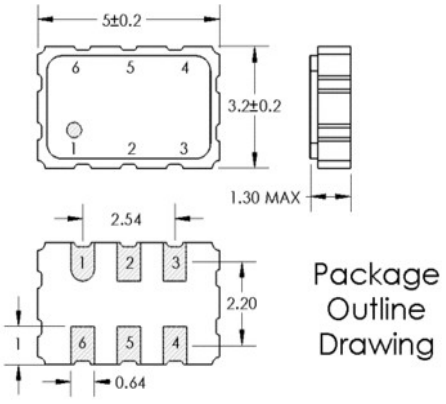
2 Exposure to absolute maximum ratings for extended periods may adversely affect device reliability.

Package Information

Pin #	Function
Pin 1	E/D = Enable / Disable or NC
Pin 2	NC = Make No Connection
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
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-XP315-5032G - x x x 1 - xxxMxxxx

① ② ③ ④

XO, LV-PECL

5.0 x 3.2 x 1.3mm, 6 Pins

Frequency

① Voltage	② Temp Range	③ Temp Stability	④ Enable
B: 3.3 V	J: -10/+70 °C	A: ±100 ppm	1: Enable on Pin 1
H: 3.0 V	K: -40/+85 °C	C: ±50 ppm	
C: 2.8 V	L: -40/+105 °C	E: ±25 ppm	
D: 2.5 V	N: -55/+125 °C	F: ±20 ppm	