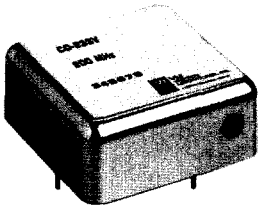
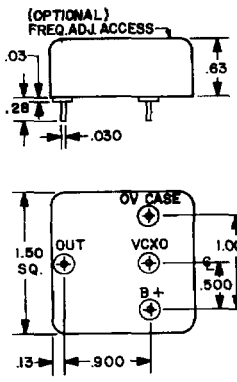
Sinewave Voltage Controlled Crystal Oscillators

CO-233V/CO-233VH

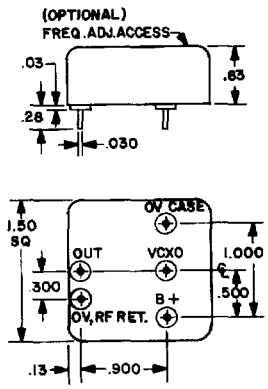


Features
- Frequencies to 200 MHz
- Deviation to ±200 ppm
- PC Board Mount
- Low aging option
- 13 dBm optional

CO-233V

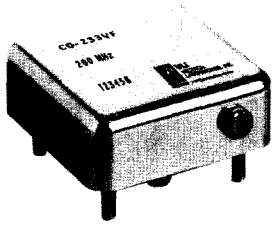


CO-233VH



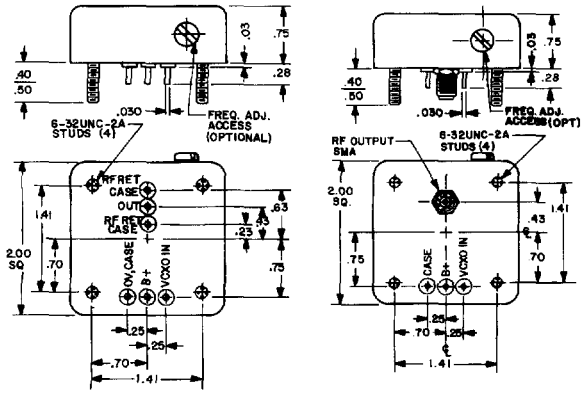
Note: dimensions in inches

CO-233VF/CO-233VFW



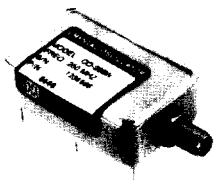
Features
- Frequencies to 400 MHz
- Deviation to ±200 ppm
- PC Board Mount
- Low aging option
- 13 dBm optional

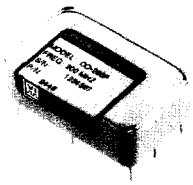
CO-233VF



Note: dimensions in inches

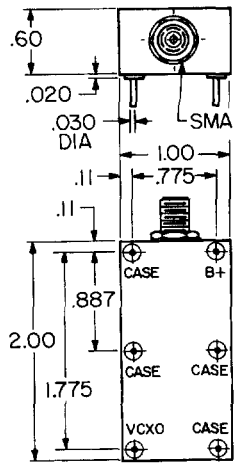
CO-286VW
CO-286VP



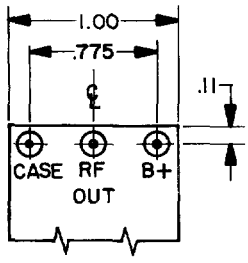


Features
- Frequencies to 1200 MHz
- Deviation to ±200 ppm
- Chassis mount RF connector configuration
- Small size
- Low aging option
- 13 dBm optional

CO-286VW



CO-286VP



Note: dimensions in inches

VECTRON INTERNATIONAL
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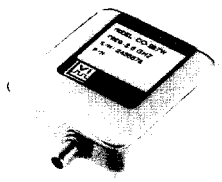
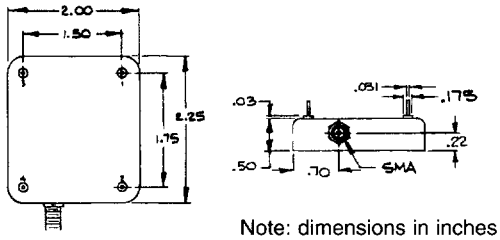
Sinewave Voltage Controlled Crystal Oscillators

CO-287VW

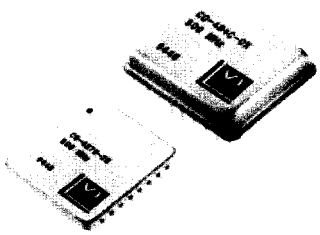


Features
- Frequencies to 2.48832 GHz
- Deviation to ±200 ppm
- 13 dBm optional
- SMA RF chassis mount
- Low profile



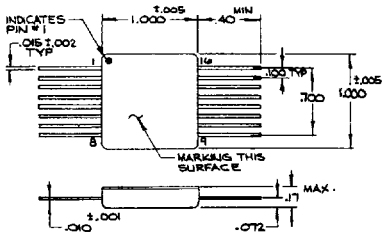
Note: dimensions in inches

CO-484V/487V

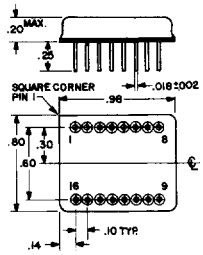


Features
- Frequencies to 200 MHz
- Deviation to ±200 ppm
- Low profile hybrid 16 pin DDIP and 16 pin flatpack
- 7 dBm output

CO-487V



CO-484V



Note: dimensions in inches

SPECIFICATIONS

SINEWAVE

Configuration	PC board mount		Chassis mount with rf output connector		Low profile hybrid DIP and flatpack
Series	(a) **CO-233V** (b) **CO-233VH**	(a) **CO-233VF** (b) **CO-286VP**	(a) **CO-233VFW** (b) **CO-286VW**	**CO-287VW**	**CO-484V** **CO-487V**
Center Frequency	(a) 8-149.9 MHz (b) 150-400 MHz	(a) 8-400 MHz (b) 400.1-1200 MHz	(a) 8-400 MHz (b) 400.1-1200MHz	1.3 GHz to 2.488 GHz	8-200 MHz

Output Level

0.5 Vrms/50Ω (+7 dBm); Option **"R":** 13 dBm (not available in CO-484V/487V above 140 MHz or CO-233VF/VFW above 280 MHz).
Harmonics are –20 dBc. Harmonic and subharmonic levels can be reduced to –30 dBc or –40 dBc in all models except CO-233V, CO-233VH and CO-296V.
+20 dBm optional in CO-283VW.

Supply (±5%)

+15 Vdc (+12 Vdc to +24 Vdc optional); current ranges from 15 mA at 8 MHz to 100 mA at 1200 MHz

Deviation/ Stability Alternatives

Code	Temperature Range	Temperature Stability	*Minimum Deviation
0	0/+50°C	±10 ppm	±30 ppm
A	0/+50°C	±20 ppm	±50 ppm
B	0/+50°C	±35 ppm	±100 ppm
C**	0/+50°C	±35 ppm	±200 ppm
D	0/+70°C	±20 ppm	±40 ppm
E	0/+70°C	±40 ppm	±100 ppm
F**	0/+70°C	±40 ppm	±200 ppm
G	–20/+70°C	±30 ppm	±60 ppm
H	–20/+70°C	±40 ppm	±100 ppm
I**	–20/+70°C	±40 ppm	±200 ppm
J	–40/+85°C	±40 ppm	±60 ppm
K	–40/+85°C	±50 ppm	±100 ppm
L**	–40/+85°C	±50 ppm	±200 ppm
M	–55/+85°C	±50 ppm	±100 ppm
N**	–55/+85°C	±50 ppm	±200 ppm

*Deviation is referenced to the specified output frequency. For example, in Model CO-484V-AX at 100 MHz, at 25°C and OV control the frequency is at least 50 ppm below 100 MHz and at +6V the frequency is at least 50 ppm above 100 MHz.

**The following notes apply to options C, F, I, L, and N (±200 ppm deviation)
- They are only available at frequencies up to 75 MHz in all models and from 1.3 GHz to 2.488 GHz in CO-287W.
- Linearity of ±10% is standard to 75 MHz (±20% is standard for CO- 287 VW)

Not available for CO-287VW

Control Voltage

0 to –6V
positive transfer function (lowest frequency at OV)
*±3V to ±10V optional except for CO-286V

*(With bipolar control voltage, transfer function is negative, linearity is ±10%.)

Linearity

±20%, smooth monotonic characteristic (±10% linearity available)
±10% is standard with bipolar control voltage and with deviation/stability options C, F, I, L, and N.

Modulation Rate

dc to 1 kHz; higher modulation rates available

Modulation Input Z

Greater than 50 kΩ

Aging Rate

Hybrid models: 3-5 ppm for first year, then 2 ppm/year thereafter—less than 20 ppm total over 10 years.
Other Models: 5 ppm for first year, then 3 ppm/year thereafter.
Option **"Y":** 2 ppm for first year, 1 ppm/year thereafter.