



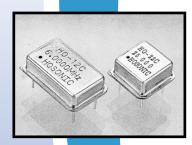








HCMOS/TTL CRYSTAL OSCILLATOR SERIES HO-12/HO-22



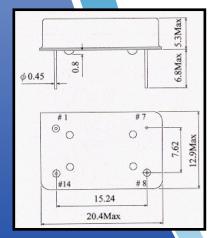
DESCRIPTION

VTM offer a very competitively priced range of full size (HO- 12) and half size (HO- 22) HCMOS / TTL Crystal oscillators. They are housed in a resistance welded case. The frequency range available is 1.000 to 100MHz. Output symmetry is 40 to 60% standard, although 45 to 55% is available. Likewise the standard operating temperature range is 0° C to 70° C, although an extended range of -40° C to +85° C can be manufactured.

SPECIFICATIONS

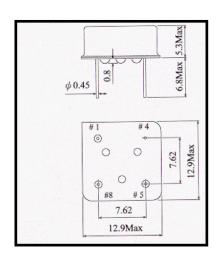
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|--|--------------------|---|-----------------------------------|---------------------|
| Model | | HO- 12 Series | HO- 22 Series | |
| Package | | 14 Pin DIP (Full Size) | 8 Pin DIP (Half Size) | |
| Frequency Range (Fo) | | 1.000MHz to 100.000 MHZ | | |
| Frequency Stability (Δf / f _o) | | A = \pm 25 ppm, B = | = \pm 50 ppm, C = \pm 100 ppm | |
| Operating Temperature Range (T _{OPR}) | | 0°C to +70°C, -40°C to +85°C (available) | | |
| Storage Temperature (T _{STG}) | | -55°C to +125°C | | |
| Power Supply Voltage (V _{DD}) | | 5V ± 0.5 V DC | | |
| Ageing (at 25°C) | | \pm 5 ppm / year Max. | | |
| | | | 1.000 MHz to 2 | 3.999 MHz 20mA Max. |
| Supply Current | | (I_{DD}) | 24.000 MHz to 4 | 9.999 MHz 30mA Max. |
| | | | 50.000 MHz to 6 | 69.999 MHz 40mA Max |
| | | 70.000 MHz to 1 | 00.000 MHz 60mA Max | |
| Output symmetry (at 50% V _{DD}) | | 40 to 60 % Nor | mal, 45 to 55% Available | |
| Rise and Fall Time (T_R, T_F) | | | 5 ns Max. | |
| 10% to 90% of Waveform W/H _{CMOS} Load | | | | |
| Output Voltage Logic High (V _{OH}) | | 4.5 V Min. | | |
| Output Voltage Logic Low (V _{OL}) | | | 0.5 V Max. | |
| Output | 1.000MHz to 39.999 | 9 MHz | 10 TTL Load | or 50 pF HCMOS Load |
| Load | 40.000 MHz to 100. | 000 MHZ | 10 TTL Load | or 15 pF HCMOS Load |
| Output Voltage Logic High (V _{OH}) Output Voltage Logic Low (V _{OL}) Output 1.000MHz to 39.999 MHz | | | | |

DIMENSIONS (mm)



| Pin | Connection | |
|-----|------------|--|
| #1 | N.C. | |
| #7 | GND | |
| #8 | Output | |
| #14 | +5VDC | |

HO-12



| Pin | Connection | |
|-----|------------|--|
| #1 | N.C. | |
| #4 | GND | |
| #5 | Output | |
| #8 | +5VDC | |

HO-22

ORDERING DATA

Specify model, frequency stability (ppm), frequency (in MHz), and temperature range

E.g HO- 12 C - 10.000 - S (blank for 0° C to + 70° C; S for -40°C to +85°C)

series HO-12/HO-22