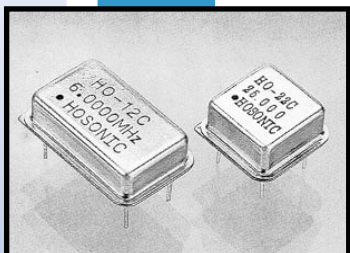




# HCMOS/TTL CRYSTAL OSCILLATOR SERIES HO-12/HO-22



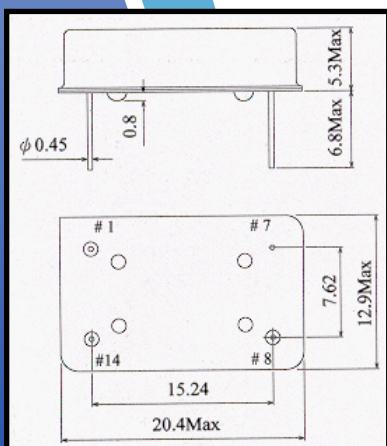
## DESCRIPTION

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

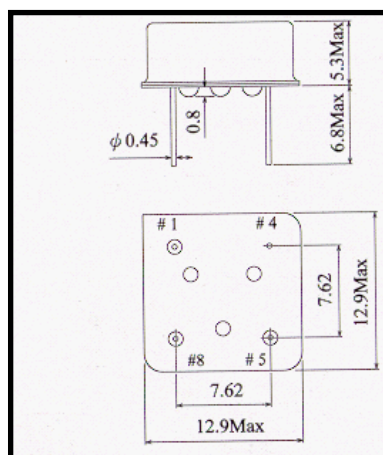
Model	HO- 12 Series	HO- 22 Series
Package	14 Pin DIP (Full Size)	8 Pin DIP (Half Size)
Frequency Range (Fo)	1.000MHz to 100.000 MHz	
Frequency Stability ( $\Delta f / f_0$ )	A = $\pm 25$ ppm, B = $\pm 50$ ppm, C = $\pm 100$ ppm	
Operating Temperature Range ( $T_{OPR}$ )	0°C to +70°C, -40°C to +85°C ( available)	
Storage Temperature ( $T_{STG}$ )	-55°C to +125°C	
Power Supply Voltage ( $V_{DD}$ )	5V $\pm$ 0.5 V DC	
Ageing (at 25°C)	$\pm 5$ ppm / year Max.	
Supply Current ( $I_{DD}$ )	1.000 MHz to 23.999 MHz 24.000 MHz to 49.999 MHz 50.000 MHz to 69.999 MHz 70.000 MHz to 100.000 MHz	20mA Max. 30mA Max. 40mA Max. 60mA Max.
Output symmetry (at 50% $V_{DD}$ )	40 to 60 % Normal, 45 to 55% Available	
Rise and Fall Time ( $T_R, T_F$ ) 10% to 90% of Waveform W/ $H_{CMOS}$ Load	5 ns Max.	
Output Voltage Logic High ( $V_{OH}$ )	4.5 V Min.	
Output Voltage Logic Low ( $V_{OL}$ )	0.5 V Max.	
Output Load	1.000MHz to 39.999 MHz 40.000 MHz to 100.000 MHz	10 TTL Load or 50 pF HCMOS Load 10 TTL Load or 15 pF HCMOS Load

## 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