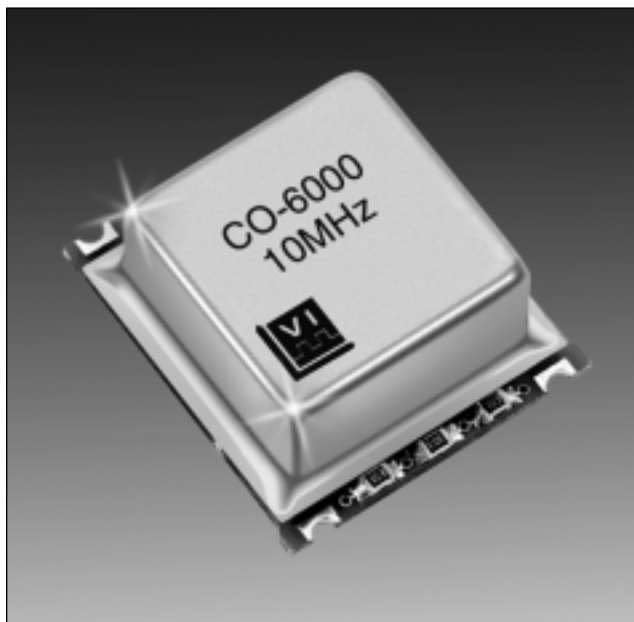


## CO-6000 Series

### Surface Mount Oven Controlled Crystal Oscillators



#### Features

- 5 MHz, 10MHz, 13MHz Standard, Other Frequencies Available from 4.8 MHz to 40 MHz.
- Stability as high as  $\pm 5 \times 10^{-9}$  over  $0^{\circ}\text{C}$  to  $+50^{\circ}\text{C}$
- Aging:  $5 \times 10^{-9}$  / day to  $5 \times 10^{-10}$ /day
- Package: 1.0" x 0.9" x 0.42" (25.4 x 22.0 x 10.3 mm)
- Low Profile, Surface Mount Design
- Supply voltage: +5 volts or +3.3 volts

#### Applications

- Telecommunication Systems
- Wireless Communication Equipment
- Data Communications
- Instrumentation

#### Description

Vectron International has introduced a series of low profile, surface mount, oven controlled crystal oscillators (OCXOs) available in frequencies from 4.8 MHz to 40 MHz.

The model CO-6000 series provides exceptionally low aging rates and high temperature stabilities and is packaged as a surface mount device (SMD), measuring 1.0" x 0.9" x 0.42" (25.4 mm x 22.0 mm x 10.3 mm).

The oscillators provide an aging rate of  $1 \times 10^{-9}$ /day with temperature stabilities as high as  $\pm 5 \times 10^{-9}$  over  $0^{\circ}\text{C}$  to  $50^{\circ}\text{C}$ . They operate from a supply voltage of +5Vdc or +3.3 Vdc at a stabilized power of 1.0 watts.

The product finds application in telecommunications, data communications, frequency synthesizers, timing, navigation, telemetry and instrumentation systems.

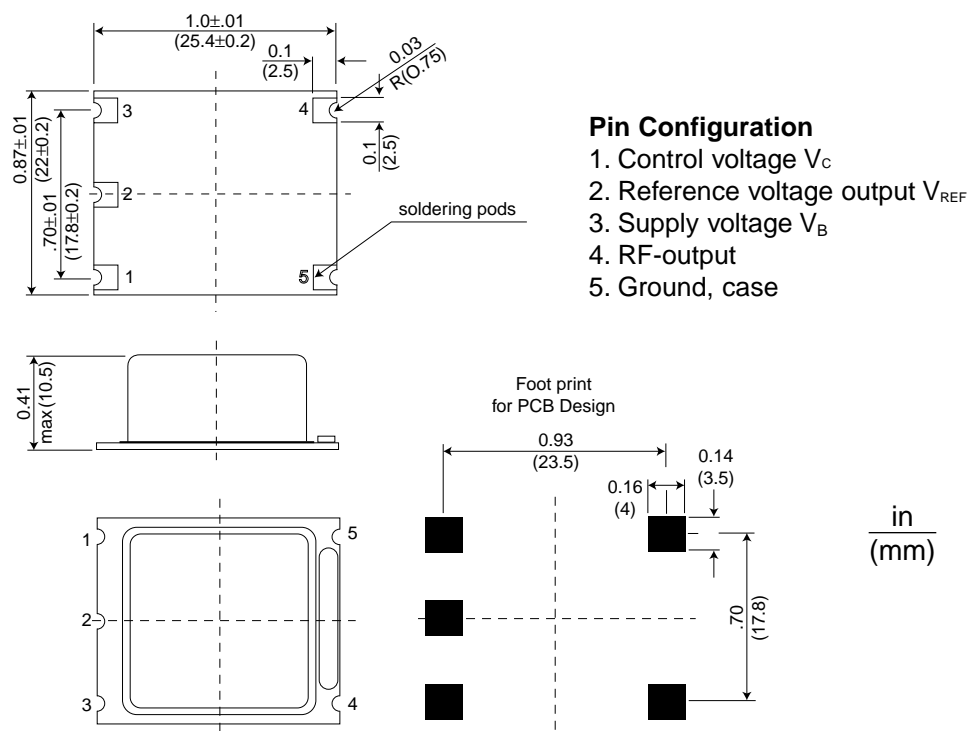
# CO-6000 Series Surface Mount Oven Controlled Crystal Oscillators

## Performance Characteristics

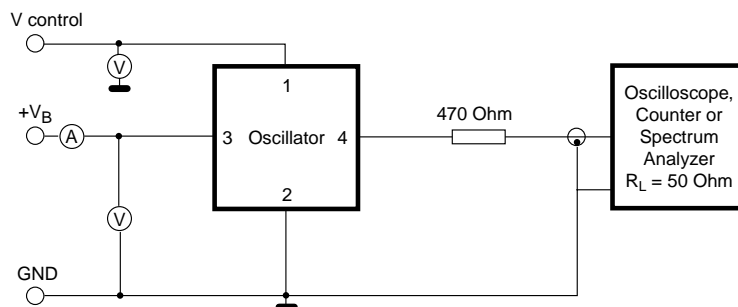
Parameter	Characteristic	
	CO-6004/6006/6007 Series (AT cut crystal)	CO-6007S/6008S Series (SC cut crystal)
Frequency:	4.8 MHz to 40 MHz with 5, 10, 13, 16.384, 19.44, 20, 24.8, 26 and 38.88 MHz standard	
Temperature Stability:	B28: $\pm 2 \times 10^{-8}$ over 0°C to +50°C C58: $\pm 5 \times 10^{-8}$ over 0°C to +70°C D17: $\pm 1 \times 10^{-7}$ over -20°C to +70°C	SB59: $\pm 5 \times 10^{-9}$ over 0°C to +50°C SC18: $\pm 1 \times 10^{-8}$ over 0°C to +70°C SD28: $\pm 2 \times 10^{-8}$ over -20°C to +70°C
Aging:	CO-6004: $1 \times 10^{-8}$ /day ( $2 \times 10^{-6}$ /yr) CO-6006: $3 \times 10^{-9}$ /day ( $3 \times 10^{-7}$ /yr) CO-6007: $1 \times 10^{-9}$ /day ( $1 \times 10^{-7}$ /yr)	CO-6007S: $1 \times 10^{-9}$ /day ( $1 \times 10^{-7}$ /yr) CO-6008S: $5 \times 10^{-10}$ /day ( $5 \times 10^{-8}$ /yr) optional at some frequencies
Warm-up: (after 24 hours off)	to within $1 \times 10^{-7}$ of final frequency in 5 minutes @ 25°C	to within $1 \times 10^{-8}$ of final frequency in 5 minutes @ 25°C
Frequency vs. Supply ( $\pm 5\%$ ):	$1 \times 10^{-9}$ /percent	$1 \times 10^{-9}$ /percent
Short Term (Allan Variance):	$1 \times 10^{-10}$ /second	$5 \times 10^{-11}$ /second
Output level:	HCMOS/TTL Standard, >0.5 Vrms/50 ohm (+7 dBm) optional (LVCMOS output with 3.3Vdc power supply)	
Harmonics (sinewave):	-25 dBc	
Power supply:	+5 Vdc $\pm 5\%$ ; 2.5W peak @ -20°C; 1.0W stabilized at 25°C (+3.3 Vdc $\pm 5\%$ , optional)	
Frequency adjustment:	$\pm 5 \times 10^{-6}$ typical for 0 to 4V control	$\pm 2 \times 10^{-6}$ typical for 0 to 4V control
Phase Noise: (typical)	-100 dBc/Hz @ 10 Hz offset -140 dBc/Hz @ 50 kHz offset	-120 dBc/Hz @ 10 Hz offset -145 dBc/Hz @ 50 kHz offset
Size mm (in.) :	25.4 x 22 x 10.3mm (1.0" x 0.9" x 0.42" max.)	
Base:	FR4 material with edge contacts	
Reflow:	240 (+5, -0)°C for 10 to 40 seconds	

# CO-6000 Series Surface Mount Oven Controlled Crystal Oscillators

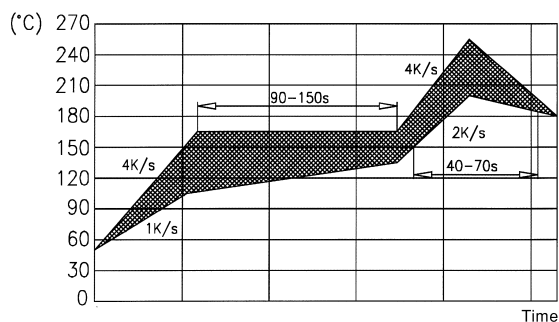
## Outline Drawing



## Test Circuit

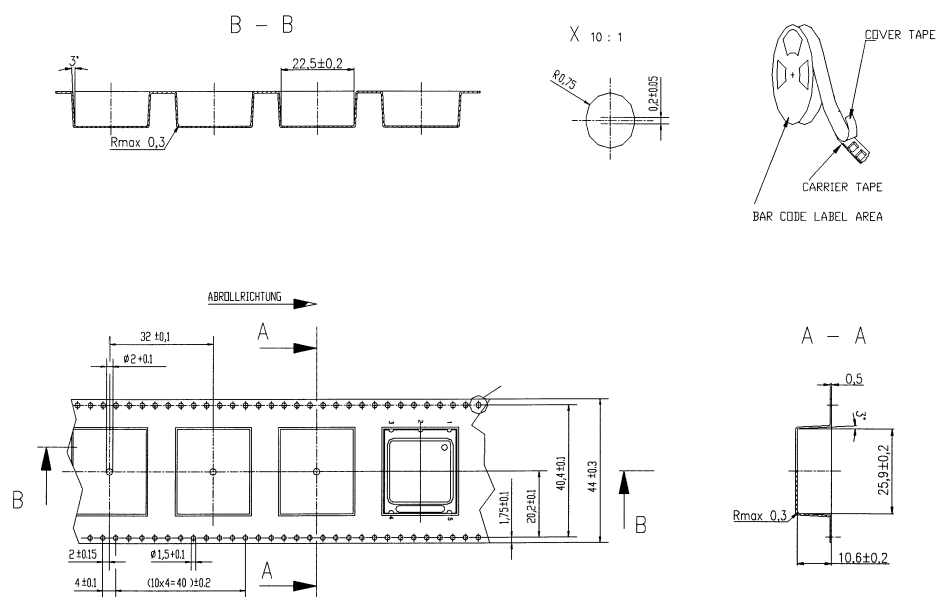


## Recommended Soldering Profile



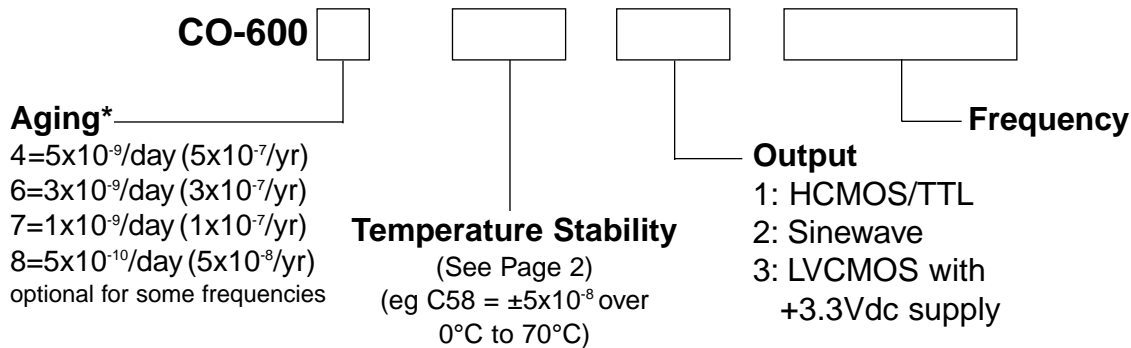
# CO-6000 Series Surface Mount Oven Controlled Crystal Oscillators

## Tape and Reel



Note: Dimensions in mm

## How To Order



[www.vectron.com](http://www.vectron.com)

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