



PIN	CONNECTION
1	Freq adjustment
7	Ground
8	Output
14	Supply

Scale 1:1

## Features

- ▶ **Compact 14-pin DIL package**
- ▶ **12.0V supply voltage**
- ▶ **Sinewave output**
- ▶ **Very fast warmup**
- ▶ **Low power consumption**
- ▶ **Wide temperature range available**

## Standard Frequencies

Frequencies in MHz	
10.00000	16.38400
12.80000	19.44000
16.00000	20.00000

## Specifications

Parameters	Product	Option
	MCOXOS	Codes
<b>Frequency range:</b> 10.0 ~ 20.0MHz	■	
<b>Frequency stability:</b> ±0.7ppm max first year ±4ppm max in 10 years ±0.1ppm over $V_{DD} \pm 0.5V$ ±0.01ppm over 10% change in load	■ ■ ■ ■	
<b>Short term stability:</b> $5 \times 10^{-10}$ , 0.1 to 30s $5 \times 10^{-11}$ over 1s typ	■ ■	
<b>Temperature stability:</b> ±0.05ppm max, 0 to +60°C ±0.1ppm max, -20 to +70°C ±0.2ppm max, -40 to +85°C	□ □ □	A B C
<b>Operable temperature range:</b> -40 to +85°C	■	
<b>Storage temperature range:</b> -65 to +125°C	■	
<b>Output waveform:</b> Clipped sine, 1 ~ 2V p-p Harmonics -10dBc Spurious -70dBc	■ ■ ■	
<b>Test load:</b> 1 kΩ // 5pF (±10%)	■	
<b>Frequency adjustment:</b> Control voltage (pin 1) ±4ppm min, 2.5V ±2.5V Variable resistor (pins 1 to 7) ±4ppm min, 0 ~ 10kΩ	□ □	V5 R1
<b>Supply voltage (<math>V_{DD}</math>):</b> +12.0V (±0.5V)	■	
<b>Input current:</b> 25mA max @ +30°C 40mA max @ -20°C	■ ■	
<b>Warm up:</b> within spec after 30s @ 0°C current 250mA max during 10s	■ ■	
<b>Phase noise (typ @ 10MHz):</b> -70dBc/Hz @ 1Hz -100dBc/Hz @ 10Hz -130dBc/Hz @ 100Hz -140dBc/Hz @ 1kHz	■ ■ ■ ■	
<b>Shock &amp; vibration:</b> 2,000G, 0.3ms ½-sine 10.0 ~ 2,000Hz, 10G	■ ■	

■ Standard. □ Optional - Please specify required code(s) when ordering

## Ordering Information

Product name +model code (if standard) + frequency

eg: **MCOXOS-AR1 12.80MHz**

**MCOXOS-BV5 19.44MHz**

Option code X (eg MCOXOS/X) denotes a custom spec.

◆ Other combinations of calibration and temperature stability/range are available.