

# OCO-M36CEH

## OCXO HCMOS



**QuartzCom**  
the communications company



### Features

- High frequency stability vs. temperature
- Wide operating temperature range: -40 up to +85 °C

Parameter	Specification							
	OCO-M36CEH5			OCO-M36CEH12				
Frequency Range	10.000 ~ 40.000 MHz							
Standard Frequencies	10.0, 12.80, 13.00, 15.36, 16.384, 20.00, 26.00, 32.768 MHz							
Operating Temperature Range	Code	°C	<b>EH</b>	<b>GH</b>	<b>JK</b>	<b>NK</b>	<b>NN</b>	<b>Z</b>
			0 / +60	-10 / +60	-20 / +70	-40 / +70	-40 / +85	Custom
Frequency Stability								
vs. Operating Temperature Range	Code	<b>20n</b>		<b>10n</b>		<b>7n5</b>		
		$\leq \pm 20 \times 10^{-9}$		$\leq \pm 10 \times 10^{-9}$		$\leq \pm 7.5 \times 10^{-9}$		
vs. Supply Voltage change (Vdc $\pm 5\%$ )	$\leq \pm 5 \times 10^{-9}$							
vs. Load change ( $\pm 5\%$ )	$\leq \pm 5 \times 10^{-9}$							
vs. Aging after 30 days of operation	$\leq \pm 3 \times 10^{-8}$ 1 <sup>st</sup> year							
Short term stability (Allan variance @ 1s)	$< 2 \times 10^{-11}$							
Output waveform	HCMOS							
Output level	$V_{OL} < 0.5 \text{ V}$ $V_{OH} > 4.0 \text{ V}$							
Output load	10 k $\Omega$ // 15 pF $\pm 5\%$							
Supply Voltage [ Vdc ]	+5.0 V $\pm 5\%$			+12 V $\pm 5\%$				
Steady-state current consumption @ +25 °C	< 400 mA			< 150 mA				
Warm up current consumption @ +25 °C	< 1000 mA			< 400 mA				
Warm-up time	< 3 min			$< \pm 1 \times 10^{-7}$ @ +25 °C				
<b>Electronic Frequency Control [ EFC ] range</b>	$> \pm 5 \times 10^{-7}$			positive slope				
Voltage Control [ Vc ]	0 ~ +4.5 V			0 ~ +5.0 V				
Reference voltage output [ Vref ]	+4.5 V			+5.0 V				
Phase Noise @ 20 MHz carrier frequency	$< -105 \text{ dBc/Hz}$		@	10 Hz				
	$< -135 \text{ dBc/Hz}$		@	100 Hz				
	$< -145 \text{ dBc/Hz}$		@	1 kHz				
	$< -150 \text{ dBc/Hz}$		@	10 kHz				
Storage temperature range	-55 ~ +85 °C							

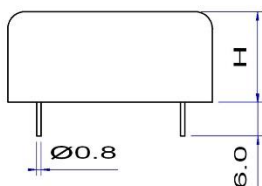
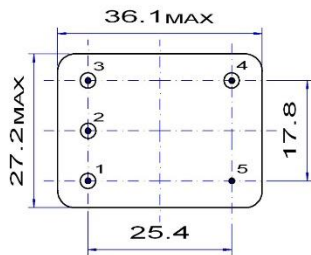
### Environmental test

Vibration	acceleration: 5 g; 10 Hz up to 500 Hz and down to 10 Hz; all 3 axes
Shock	10 g, half-sine, 3 ms

Note 1: unless otherwise specified conditions are @ 25°C still air

### Pin Function

- Vc
- Vref
- Vdc
- RF Output
- GND



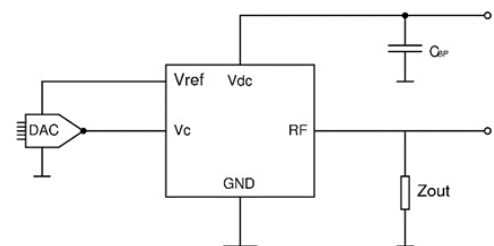
Height H = 16 mm

### Ordering Guide:

**OCO-M36CEH5-JK10n-10MHz**

Vdc OTR

### Connection circuit



Zout = 10k $\Omega$  // 15pF