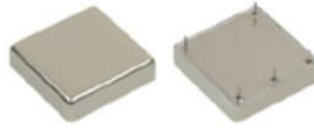


# OCO-M50B

OCXO HCMOS / Sine Wave



QuartzCom  
the communications company



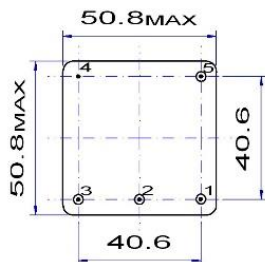
## Features

- High Frequency stability versus OTR:  $\leq \pm 2 \times 10^{-10}$
- Wide Operating Temperature Range:  $-40\text{ }^{\circ}\text{C}$  to  $+85\text{ }^{\circ}\text{C}$

Parameter	Specification						
	OCO-M50B_5			OCO-M50B_12			
Frequency Range	8.192 ~ 32.768 MHz						
Standard Frequencies	10MHz 12.8MHz 13MHz 16.384MHz 20MHz						
Operating Temperature Range	Code	EH	GH	JK	NK	NN Z	
							$0 / +60$ $-10 / +60$ $-20 / +70$ $-40 / +70$ $-40 / +85$ Custom
Frequency Stability	Code	1n0		n50		n20	
		$\leq \pm 10 \times 10^{-10}$		$\leq \pm 5 \times 10^{-10}$		$\leq \pm 2 \times 10^{-10}$	
vs. Supply Voltage change [ Vdc ] $\pm 5\%$		$\leq \pm 5 \times 10^{-10}$					
vs. Load change $\pm 5\%$		$\leq \pm 5 \times 10^{-10}$					
vs. Aging after 30 days of operation *Note 2		$\leq \pm 2 \times 10^{-8}$				1 <sup>st</sup> year	
Short term Stability for Fo 10MHz *Note 2		$\leq 5 \times 10^{-12}$				@ 1s	
Output waveform	Sine wave [ S ]			HCMOS [ H ]			
Output Level	$> 300\text{ mV RMS}$			$V_{OL} < 0.5\text{ V}$ $V_{OH} > 4.0\text{ V}$			
Output Load	$50\Omega \pm 5\%$			$10\text{ k}\Omega / 30\text{ pF}$			
Harmonics	$< -30\text{ dBc}$			NA			
Supply Voltage [ Vdc ]	$+5.0\text{ V} \pm 5\%$			$+12.0\text{ V} \pm 5\%$			
Steady-state current consumption @ $+25\text{ }^{\circ}\text{C}$	$< 500\text{ mA}$			$< 250\text{ mA}$			
Warm-up current consumption @ $+25\text{ }^{\circ}\text{C}$	$< 1500\text{ mA}$			$< 550\text{ mA}$			
Warm-up time @ $+25\text{ }^{\circ}\text{C}$	$< 180\text{ s}$			$< \pm 2 \times 10^{-8}$			
Electronic Frequency Control [ EFC ] range	$> \pm 4 \times 10^{-7}$			positive slope			
Voltage Control [ Vc ]	$0 \sim +4.5\text{ V}$			$0 \sim +5.0\text{ V}$			
Reference voltage output [ Vref ]	$+4.5\text{ V}$			$+5.0\text{ V}$			
Phase Noise @ 10MHz [ dBc/Hz ] LN & ULN only for Vdc 12V	Option	SINE			HCMOS		
			LN	ULN			
		1 Hz	$\leq -95$	$\leq -100$	$\leq -108$	$\leq -95$	
		10 Hz	$\leq -125$	$\leq -130$	$\leq -137$	$\leq -125$	
		100 Hz	$\leq -145$	$\leq -153$	$\leq -157$	$\leq -145$	
		1 kHz	$\leq -150$	$\leq -158$	$\leq -161$	$\leq -150$	
10 kHz	$\leq -155$	$\leq -160$	$\leq -162$	$\leq -155$			
Storage temperature range	$-55 \sim +85\text{ }^{\circ}\text{C}$						
Environmental test							
Vibration	acceleration: 5 g; 10 Hz up to 500 Hz and down to 10 Hz; all 3 axes						
Shock	75 g, half-sine, 3 ms						

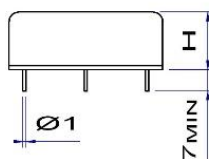
Note 1: unless otherwise specified conditions are @  $25\text{ }^{\circ}\text{C}$  still air

Note 2: all combination not possible (consult factory)



### Pin function

- 1 # Vc
- 2 # Vref
- 3 # RF out
- 4 # GND
- 5 # Vdc



H = < 16 mm

## Ordering Guide:

**OCO-M50BS12-JKn50-ULN-10MHz**

Vdc OTR Phase Noise

Connection circuit

