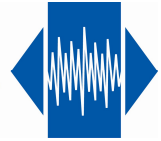


# OCO-SM149H Preliminary

Small size OCXO HCMOS



**QuartzCom**  
the communications company



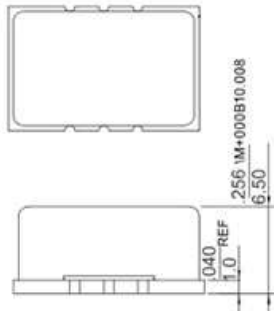
## Features

- Low power consumption (0.6W)
- Wide Operating Temperature Range:  $\leq \pm 20 \times 10^{-9}$  -40 to +85 °C

Parameter	Specification						
	OCO-SM149H3						
Frequency Range	10 MHz to 40 MHz						
Standard Frequencies	10.000, 12.800, 19.200, <b>20.000</b> , 25.000, 38.880 MHz						
Operating Temperature Range	Code	EH	GH	JK	NK	NN	Z
<b>Frequency Stability</b>							
vs Operating Temperature Range	Code	40n		20n		10n	
		$\leq \pm 40 \times 10^{-9}$		$\leq \pm 20 \times 10^{-9}$		$\leq \pm 10 \times 10^{-9}$	
vs. Supply Voltage change (Vdc $\pm 5\%$ )		$\leq \pm 5 \times 10^{-9}$					
vs. Load change ( $\pm 5\%$ )		$\leq \pm 10 \times 10^{-9}$					
vs. Aging after 30 days of operation		$\leq \pm 4 \times 10^{-7}$ 1 <sup>st</sup> year			$\leq \pm 2 \times 10^{-6}$ 10 years		
Short term stability (Allan variance @1s)		$< 1 \times 10^{-10}$ (Typ. : $5 \times 10^{-11}$ )					
Output waveform		HCMOS					
Output level		$V_{OL} < 0.4 V$		$V_{OH} > 2.4 V$			
Output load		15 pF					
Rise / Fall time		$< 4 ns$					
<b>Supply Voltage [ Vdc ]</b>		<b>+3.3 V <math>\pm 5\%</math></b>			<b>+5.0 V <math>\pm 5\%</math></b>		
Warm-up current @ +25 °C still air		$< 600 mA$			Consult factory		
Steady-state current @ +25 °C still air		$< 185 mA$					
Warm-up time		$< 5 min$		$< \pm 0.1 \times 10^{-6}$ @ +25 °C			
<b>Electronic Frequency Control [ EFC ] range</b>		$> \pm 5 \times 10^{-6}$ positive slope					
Voltage Control ( Vc )		0 ~ +3.3 V					
Input Impedance		100 k $\Omega$					
<b>Phase Noise @ 20 MHz</b>			<b>Typ.</b>	<b>Max.</b>	<b>Units</b>		
		<b>10Hz</b>	-98	-92	dBc/Hz		
		<b>100Hz</b>	-125	-120			
		<b>1kHz</b>	-145	-140			
		<b>10kHz</b>	-152	-150			
Storage temperature range		-55 ~ +85 °C					
<b>Reflow conditions per JEDEC J-STD-020</b>		<b>245 °C maximum</b>			<b>during 10 sec. Max.</b>		

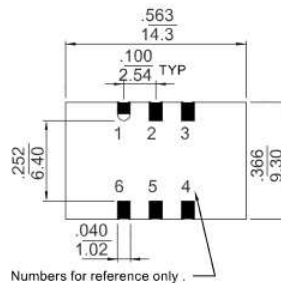
Note 1: unless otherwise specified conditions are @ 25°C still air

## Dimensions



## Pin function

- # 1 Vc or NC
- # 2 RF Enable
- # 3 GND
- # 4 RF Output
- # 5 NC
- # 6 Vdc



Numbers for reference only .

## Ordering Guide:

**OCO-SM149H3-NN20n-20MHz**

Vdc OTR

## Test circuit

