

# OCO-M36AS

Through hole OCXO  
Sine wave



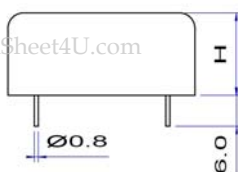
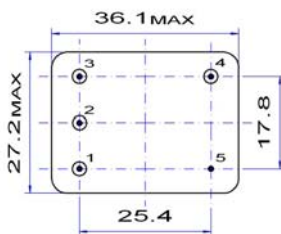
## Features

- Applications: CDMA, 3G, networking, instrumentation
- High frequency stability vs. temperature (up to  $\pm 1 \times 10^{-10}$ )
- Wide operating temperature range: -40 up to +85 °C
- Low aging

Parameter	Specification	
	OCO-M36AS5	OCO-M36AS12
Frequency range	8.1920 ~ 20.0000 MHz	
Standard frequencies	10.00, 12.80, 13.00, 16.384 & 20.00 MHz	
Frequency stability vs. operating temperature range	$\leq \pm 1.0 \times 10^{-9}$	over -40 ~ +85 °C
	$\leq \pm 7.5 \times 10^{-10}$	over -20 ~ +70 °C
	$\leq \pm 5.0 \times 10^{-10}$	over -10 ~ +60 °C
vs. supply voltage change	$\leq \pm 5 \times 10^{-10}$	$\pm 5 \%$
vs. load change	$\leq \pm 5 \times 10^{-10}$	$\pm 5 \%$
vs. aging after 30 days of operation	$\leq \pm 3 \times 10^{-8}$	1 <sup>st</sup> year
Short term stability	$< 5 \times 10^{-12}$	Allan deviation per 1 s
Output waveform	sine wave > 300 mV (rms)	sine wave > 9 dBm
Output load	50 $\Omega$	$\pm 5 \%$
Supply voltage	+5.0 V $\pm 5 \%$	+12 V $\pm 5 \%$
Steady state current consumption @ +25 °C	< 400 mA	< 150 mA
Warm-up time	< 3 min	$< \pm 2 \times 10^{-8}$ @ +25 °C
Frequency pulling range	$> \pm 4 \times 10^{-7}$	positive slope
Vcontrol (Vc) via external voltage	0 ~ +4.5 V	0 ~ +5.0 V
Reference voltage output (Vref)	+4.5 V	+5.0 V
Phase noise @ 10 MHz carrier frequency & Vdc = 12 V	< -125 dBc/Hz @ 10 Hz < -145 dBc/Hz @ 100 Hz < -150 dBc/Hz @ 1 kHz < -155 dBc/Hz @ 10 kHz	
Harmonics suppression	> -30 dBc	
Operating temperature range	-10 ~ +60 °C, -20 ~ +70 °C, -40 ~ +70 °C or -40 ~ +85 °C	
Storage temperature range	-55 ~ +85 °C	
Case height (H)	10.0, 12.7 or 16.0 mm	

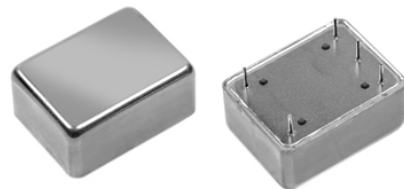
## Environmental test

vibration	acceleration: 5 g; 10 Hz up to 200 Hz and down to 10 Hz; all 3 axes, 4.5 h/axis	
shock	75 g, half-sine, 3 ms (3 shocks each, 6 directions)	

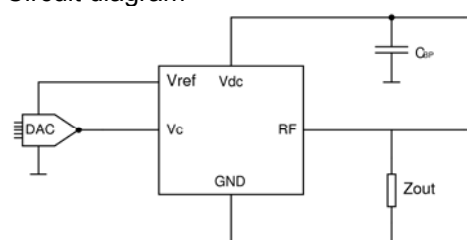


## Pin function

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



## Circuit diagram



$C_{BP} = 0.01 \text{ mF}$

$Z_{out} = 50 \Omega$

2002/95/EC RoHS compliant