

# OCO-M36AGS

## Low G-sensitivity OCXO Sine wave

QuartzCom  
the communications company

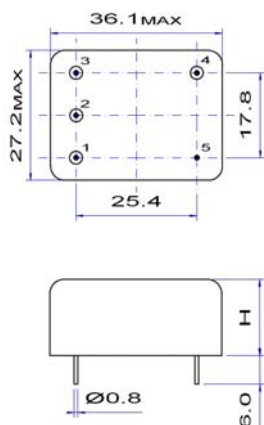


### Features

- Low G-sensitivity stability  $1.0 \times 10^{-9}$  /g
- High frequency stability vs. temperature (up to  $\pm 7.5 \times 10^{-9}$ )
- Low phase noise optional

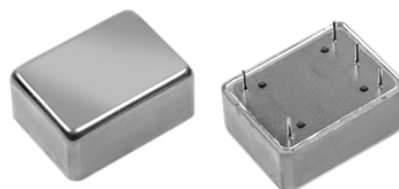
| Parameter                                                                | Specification                                            |                                    |
|--------------------------------------------------------------------------|----------------------------------------------------------|------------------------------------|
|                                                                          | OCO-M36AGS5                                              | OCO-M36AGS12                       |
| Frequency range                                                          | 5.0000 ~ 20.0000 MHz                                     |                                    |
| Standard frequencies                                                     | 5.00, 10.00, 12.80, 13.00, 16.384 & 20.00 MHz            |                                    |
| Frequency stability<br>vs. operating temperature range                   | $\leq \pm 2.0 \times 10^{-9}$                            | over -40 ~ +85 °C                  |
|                                                                          | $\leq \pm 1.0 \times 10^{-9}$                            | over -20 ~ +70 °C                  |
|                                                                          | $\leq \pm 7.5 \times 10^{-10}$                           | 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            |
| G-sensitivity (in the range 0 ~ 500 Hz)                                  | $< 1.5 \times 10^{-9}$ /g                                | optional $< 1.0 \times 10^{-9}$ /g |
| Output waveform                                                          | sine wave                                                | $> 300$ mV (rms)                   |
| 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                         |
| Peak current consumption during warm-up time                             | $< 950$ mA                                               | $< 400$ mA                         |
| Warm-up time                                                             | $< 3$ min                                                | $< \pm 1 \times 10^{-7}$ @ +25 °C  |
| Frequency pulling range                                                  | $> \pm 4 \times 10^{-7}$                                 | 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 @ 10 MHz carrier frequency<br>Low phase noise for Vdc = 12 V | $< -130$ dBc/Hz                                          | @ 10 Hz                            |
|                                                                          | $< -153$ dBc/Hz                                          | @ 100 Hz                           |
|                                                                          | $< -158$ dBc/Hz                                          | @ 1 kHz                            |
|                                                                          | $< -160$ dBc/Hz                                          | @ 10 kHz                           |
| Harmonics                                                                | $> 30$ 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)                                                          | 12.7 mm 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)                             |

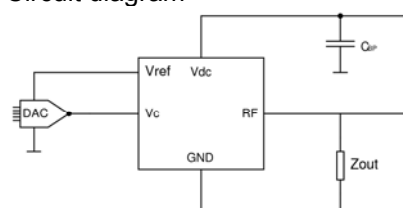


### Pin function

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



### Circuit diagram



$C_{BP} = 0.01$  mF

$Z_{OUT} = 50 \Omega$

2002/95/EC RoHS compliant

