# OCO-M50BH

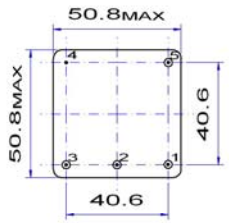
*Ultra Low Noise OCXO*
*HCMOS*

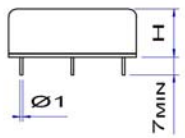
## Features

- Applications: Base station
- High frequency stability vs. temperature (up to ±2 x $10^{-10}$ )
- Wide operating temperature range: -40 up to +85 °C

| Parameter | Specification | |
|---|---|---|
| | OCO-M50BH5-XX | OCO-M50BH12-XX |
| Frequency range | 8.192 ~ 32.7680 MHz | |
| Standard frequencies | 8.192, 10.0, 12.80, 13.00, 15.36, 16.384, 20.00, 26.00, 32.768 MHz | |
| Frequency stability vs. operating temperature range | ≤ ±2.0 x $10^{-10}$ | over -40 ~ +85 °C |
| | ≤ ±5.0 x $10^{-10}$ | over -40 ~ +85 °C |
| | ≤ ±1.0 x $10^{-9}$ | over -40 ~ +85 °C |
| vs. supply voltage change (±5 %) | ≤ ±5 x $10^{-10}$ | optional ≤ ±2 x $10^{-10}$ |
| vs. load change (±5 %) | ≤ ±5 x $10^{-10}$ | optional ≤ ±2 x $10^{-10}$ |
| vs. aging after 30 days of operation | ≤ ±2 x $10^{-8}$ | 1st year |
| Short term stability | < 6 x $10^{-13}$ | Allan deviation per 1 s |
| Output waveform | HCMOS | |
| Output level | $V_{OL}$ < 0.5 V | $V_{OH}$ > 4.0 V |
| Output load | 10 kΩ/30 pF | ±5 % |
| Rise/Fall time | < 6 ns | optional < 3 ns |
| Supply voltage | +5.0 V ±5 % | +12 V ±5 % |
| Steady-state current consumption @ +25 °C | < 500 mA | < 250 mA |
| Warm-up time | < 3 min | < ±2 x $10^{-8}$ @ +25 °C |
| Frequency pulling range (Vin) | > ±4 x $10^{-7}$ | 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 | < -108 dBc/Hz @ 1 Hz<br>< -137 dBc/Hz @ 10 Hz<br>< -157 dBc/Hz @ 100 Hz<br>< -161 dBc/Hz @ 1 kHz<br>< -162 dBc/Hz @ 10 kHz | |
| 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 ~ 16.0 mm | |

| Environmental test | |
|---|---|
| vibration | acceleration: 5 g; 10 Hz up to 200 Hz and down to 10 Hz; all 3 axes |
| shock | 75 g, half-sine, 3 ms |



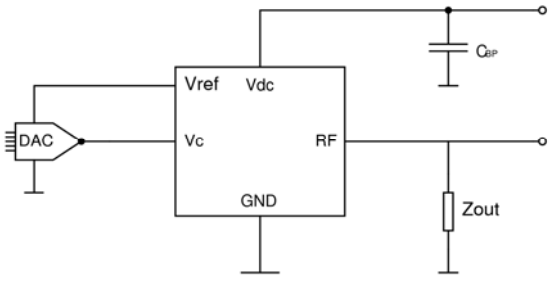




Case height H = 10 ~ 16 mm

Pin function

| | | |
|---|---|---|
| 1 # | Vc | Supply voltage |
| 2 # | Vref | Reference output |
| 3 # | RF | Output signal |
| 4 # | GND | Case Ground |
| 5 # | Vdc | +5 V supply |

Connection Circuit




Zout = 50 Ω

2002/95/EC RoHS compliant

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