

# OCXO 8788 / 8789 ultra low phase noise

## Oven Controlled Crystal Oscillator

The 8788 / 8789 models offer ultra low phase noise and excellent stability in standard 51.1x41.1 x19mm and 50.8x50.8x19mm packages.

### Features

- Ultra low phase noise
- High stability
- Wide operating temperature range up to -40°C to 70°C
- Low profile

### Applications

- Satellite data transmission
- Instrumentation
- Transceiver stations

Standard frequencies are :

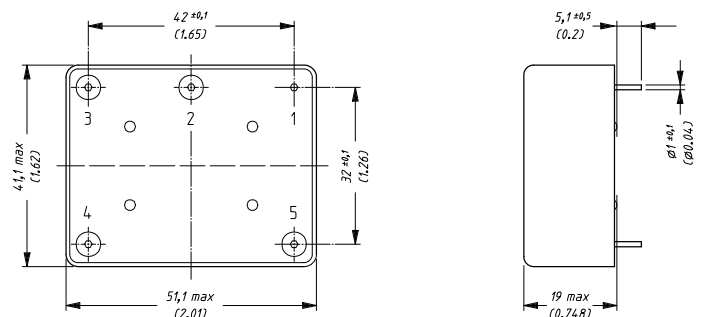
- 5MHz and 10MHz with noise figure as below:

Phase noise L (f) (BW = Hz)		
Frequency	5 MHz	10 MHz
Phase noise 1Hz	- 105 dBc	- 100 dBc
10 Hz	- 135 dBc	- 130 dBc
100 Hz	- 150 dBc	- 150 dBc
1k Hz	- 157 dBc	- 157 dBc
10k Hz	- 162 dBc	- 162 dBc
100k Hz	- 162 dBc	- 162 dBc

### Outline and Electrical connections.

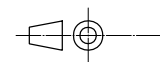
All dimensions in mm (inches)

#### 8788

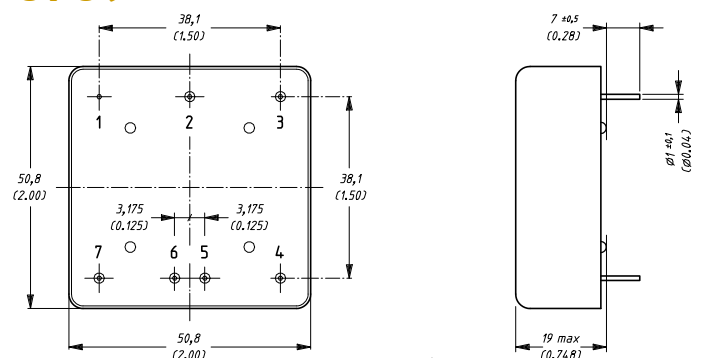


#### Pin-out connections

- 1: GND
- 2: Vc input
- 3: Vref output
- 4: +Power supply
- 5: Output



#### 8789



#### Pin-out connections

- 1: GND
- 2: NC
- 3: Vc input
- 4: NC
- 5: NC
- 6: Output
- 7: +Power supply



# Technical Specifications

# OCXO 8788/8789

## Oven Controlled Crystal Oscillator

Standard / Option	Standard	Option
Crystal Oscillator	SC-cut	
Standard frequencies	10 MHz / 5 MHz	Consult factory
Operating temperature range	A: -20 °C to +70 °C B: 0 °C to +70 °C C: 0 °C to +60 °C	D: -10 °C to +70 °C E: -40 °C to +70 °C
Frequency stability ( D f/f)		
Long term stability (aging after 30 days of continuous operation)	Standard: 5x10 <sup>-10</sup> /day 7x10 <sup>-8</sup> /year	G: 2x10 <sup>-10</sup> /day H: 1x10 <sup>-10</sup> /day 3x10 <sup>-8</sup> /year
Setting @ 25 °C VC max / 2	< ± 2x10 <sup>-7</sup>	
Over temperature range (Y)	Std : < 2x10 <sup>-8</sup> peak to peak	1: < 1x10 <sup>-8</sup> peak to peak
Versus supply voltage changes (Vcc ± 5%)	< ± 2x10 <sup>-10</sup>	
Versus load changes (50Ω ± 10%)	< ± 2x10 <sup>-10</sup>	
Short term stability σ (τ) @ 1s ( 5MHz )	< 1x10 <sup>-12</sup>	
Electronic frequency control : Z > 10 kΩ	>± 0.8 ppm (0 to 10 Volts) / Linearity<10% / Positive slope	
Power Supply (P)		
Input voltage range (DC)	+12 Volts ± 10% / over consult factory	
Power consumption (@Vcc = 12V)	< 8W during warm up / < 2.5W after warm-up at +25 °C	
Environment (Not operating)		
Storage temperature	-40 °C to +125 °C	
Vibration	IEC 68-2-6 Test Fc : 10 Hz–500 Hz, 10g	
Shock	IEC 68-2-27 : Half-sine 50g, 11ms	
Size (L x W x H)	8788: 51.1 x 41,1 x 19mm	8789: 50.8 x 50.8 x 19mm (2>x2>x0.75>)
Weight	~ 80g	
Outline and electrical connections	See drawing	
Outputs Characteristics (Z)	S	
Wave form	Sine	
Level (Tol.) / Impedance	> 6dBm / 50 Ω	
Phase noise	See drawing	
Harmonics (Typical )	-25 dBc	
Spurious in the frequency range up to 1 MHz	< -75 dBc	

Oscilloquartz SA reserves the right to change all specifications contained herein at any time without prior notice.



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## Ordering Information

**8789 – B S G - 10.000 MHz**

**Model**

+12Vdc

**Operating temperature range**

A; B; C; D; E

**Nominal frequency output**

10.000 MHz

**Aging Options**

- ; G

**Output signal**

S: Sine wave