



# OCXO 8863 Double oven controlled 19mm (0.75")

## Oven Controlled Crystal Oscillator

The **8863** series offer excellent frequency stability in very low volume and very low profile package.

The thermal design with down to  $2 \times 10^{-10}$  pp stability over temperature range, makes this device unique for severe holdover requirements.

### Features

- SC cut 3<sup>rd</sup> overtone crystal resonator
- Wide operating temperature range (-20°C to 70°C)

### Benefits

- Selectable long term stability
- Easily interfaces with analog or digital circuits
- Fits all telecommunications requirements

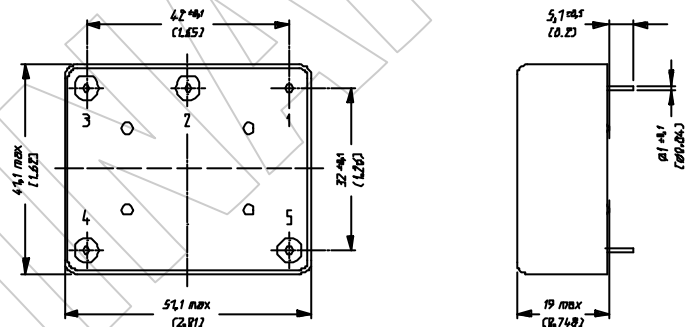
### Applications

- Precise time keeping and navigation equipment: **GPS/GSM/UMTS/CDMA**
- Stratum II & III
- Base station

Pin to pin compatible with 866x models.

### Outline and Electrical connections

All dimensions in mm (inches)  
Surface mount technology on study

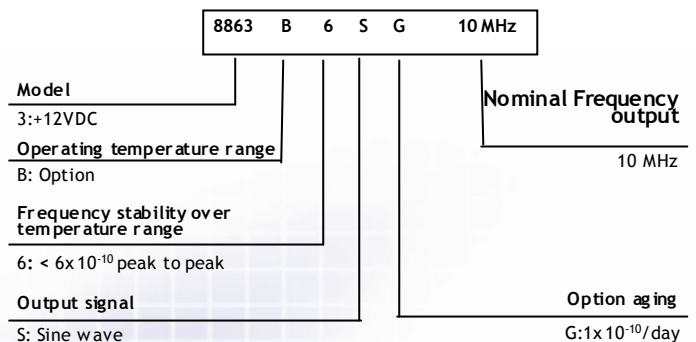


### Pin-out connections

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

Phase noise L (f) (BW = Hz)	
Frequency	10 MHz
Phase noise 1Hz	- 100 dBc
10 Hz	- 130 dBc
100 Hz	- 140 dBc
1k Hz	- 150 dBc
10k Hz	- 155 dBc
100k Hz	- 155 dBc

### Ordering Information



Standard / Option	Standard		Option	
Crystal Oscillator	SC-cut			
Standard frequencies	4.096/5/8.192/10/16.384 MHz		4.096 to 40 MHz	
Operating temperature range	A: -20°C to +70°C		B: 0°C to +70°C C: 0°C to +60°C	
Frequency stability ( $\Delta f/f$ )	Standard	Option G	Option H	Option J
Long term stability	2x10 <sup>-10</sup> /day 3x10 <sup>-8</sup> /year	1x10 <sup>-10</sup> /day 2x10 <sup>-8</sup> /year	5x10 <sup>-11</sup> /day 1.5x10 <sup>-8</sup> /year	3x10 <sup>-11</sup> /day 1x10 <sup>-8</sup> /year
Aging after 30 days of continuous operation : Applicable for :	30 days 4.096 to 40MHz	30 days 4.096 to 40MHz	60 days 4.096 to 10MHz	90 days 4.096 to 5MHz
Over temperature range (Y)	Std : < 1x10 <sup>-9</sup> peak to peak		2: < 2x10 <sup>-10</sup> peak to peak 6: < 6x10 <sup>-10</sup> peak to peak	
Versus supply voltage changes (Vcc ±10%)	< ±3x10 <sup>-11</sup>			
Versus load changes (50Ω ± 10%)	< ±3x10 <sup>-11</sup>			
Short term stability $\sigma(\tau)$ 1s Allan variance	< 5x10 <sup>-12</sup>			
Short term stability $\sigma(\tau)$ 10s Allan variance	< 1x10 <sup>-11</sup>			
Electronic frequency control	>± 0.3 ppm (0 to 10 Volts) / Linearity<10% / Positive slope			
Power Supply (P)				
Input voltage range (DC)	+12 Volts ± 10%			
Power consumption (@Vcc = 12V)	< 9W during warm up / < 2.5W after warm-up at +25°C			
Environment (Not operating)				
Storage temperature	-40°C to +125°C			
Vibration	MIL-STD 176-1			
Shock	50g, 11ms, 3 shocks in each direction of the main axis			
Size (L x W x H)	51.1 x 41.1 x 19mm (2.01"x1.62"x0.75")			
Weight				
Outline and electrical connections	See drawing page 1			
Outputs Characteristics (Z)	S			
Wave form	Sine			
Level (Tol.) / Impedance	> +4 dBm / 50Ω			
Phase noise	See table page 1			
Harmonics	< -30 dBc			
Spurious in the frequency range up to 1 MHz	< -80 dBc			
Symmetry	Not applicable			
Rise/Fall time (10/90% 1xHCMOS gate)	Not applicable			
Internal reference voltage				
Pin 3: Vref out (R <sub>Load</sub> >20kΩ)	8 Volts ± 0.2 Volt (source resistor 1kΩ)			
Stability vs temperature range	Vref out ± 3mV			

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

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