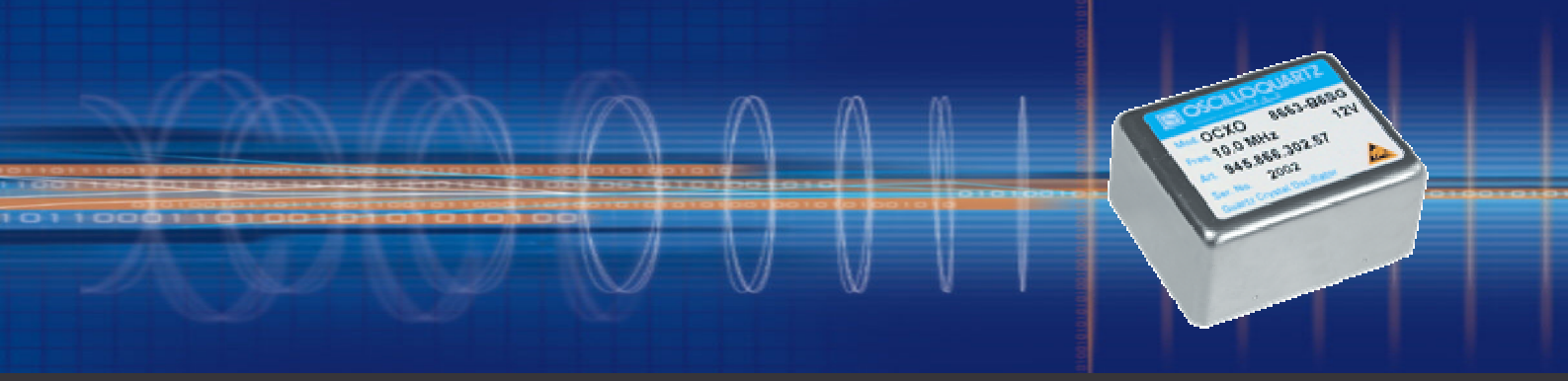


OCXO 8662 / 8663

Excellent Thermal Behavior

Oven Controlled Crystal Oscillator

The 8663 series offer excellent frequency stability in low volume, low profile package.
The thermal design with down to 2 10^{-10} pp stability over temperature range, makes this device unique for severe holdover requirements.

Features

- SC cut 3rd overtone crystal resonator
- Wide operating temperature range (- 20°C to 70°C)
- Sine or HC-MOS / TTL-compatible output
- Option Low phase noise / Low aging

Benefits

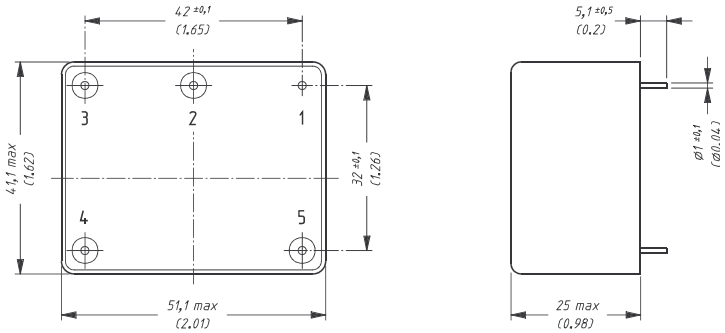
- Selectable long term stability
- Easily interfaces with analog or digital circuits
- Fits all telecommunications requirements

Applications

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

Outline and Electrical connections

All dimensions in mm (inches)



Pin-out connections

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

Phase noise (BW = 1 Hz)				
Frequencies	5 MHz		10 MHz	
Standard / Option L	Standard	Option L	Standard	Option L
Phase noise 1 Hz	- 100 dBc	- 110 dBc	-90 dBc	- 100 dBc
10 Hz	- 130 dBc	- 132 dBc	-120 dBc	- 130 dBc
100 Hz	- 140 dBc	- 140 dBc	-135 dBc	- 140 dBc
1'000 Hz	- 145 dBc	- 145 dBc	-145 dBc	- 150 dBc

Ordering Information

8663 A 1 S G L 5 MHz

- **Model**: 3: +12VDC
- **Operating temperature range**: A: Standard
- **Frequency stability over temperature range**: 1: <1x10^{-9} peak to peak
- **Output signal**: S: Sine wave
- **Option aging**: G: 1x10^{-10}/day
- **Option Low phase noise**: L: Low phase noise
- **Nominal frequency output**: 5 MHz

Frequency stability vs temperature range	Standard	Option 1	Option 6	Option 2
Frequency stability	4x10^{-9} peak to peak	1x10^{-9} peak to peak	6x10^{-10} peak to peak	2x10^{-10} peak to peak
Valid for temperature range	A / B / C	A / B / C	A / B / C	B / C

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OSCILLOQUARTZ
SWATCH GROUP ELECTRONIC SYSTEMS

Technical Specifications

OCXO 8662 / 8663

Oven Controlled Crystal Oscillator

Standard / Option	Standard	Option
Crystal Oscillator	SC-cut, 3rd overtone	
Standard frequencies	4.096/5/8.192/10/13/16.384 MHz	4.096 to 40.000 MHz
Operating temperature range	**A:** -20°C to +70°C	**B:** 0°C to +70°C **C:** 0°C to +60°C
Frequency stability (Δ f/f)		
Long term stability Std & G : aging after **30** days of continuous operation **H : aging after **60** days of continuous operation ***J : aging after **90** days of continuous operation	$2x10^{-10}$/day $5x10^{-9}$/month $3x10^{-8}$/year	**G :** $1x10^{-10}$/day **H :** $5x10^{-11}$/day ***J :** $3x10^{-11}$/day
Over temperature range	Std : < $4x10^{-9}$ peak to peak	**1:** : <$1x10^{-9}$ peak to peak **2:** : <$2x10^{-10}$ peak to peak **6:** : <$6x10^{-10}$ peak to peak
Versus supply voltage changes (Vcc ± 5%)	< $3x10^{-10}$	
Versus load changes (50Ω ± 10%)	< $5x10^{-11}$	
Short term stability σ (τ) (0.2 to 10s) Allan variance	< $1x10^{-11}$	
Electronic frequency control	>± 0,3 ppm (0 to +10 Volts) / Linearity < 5% / Positive slope	
Power Supply (P)		
Input voltage range (DC)	8662 : +24 Volts ± 5% 8663 : +12 Volts ± 5%	9V to 30V Consult factory
Power consumption	< 2.5W after warm-up at 25°C / < 8W during warm up	
Environment (Not operating)		
Storage temperature	-40°C to +125°C	
Vibration	MIL-STD 167-1	
Shock	50g, 11ms, 3 shocks in each direction of the main axis	
Size (L x W x H)	51.1 x 41.1 x 25 mm (2.01"x 1.62"x 0.98")	
Weight	100g	
Outline and electrical connections	See drawing	
Output Characteristics (Z)	**S**	**T**
Wave form	Sine	Square
Level (Tol.) / Impedance	> +4 dBm / 50Ω	HCMOS / TTL compatible
Phase noise	See table	Not applicable
Harmonics	< −25 dBc	Not applicable
Spurious in the frequency range up to 1MHz	< −70 dBc	Not applicable
Symmetry	Not applicable	40% - 60%
Rise / Fall time (10 / 90%, 12pF)	Not applicable	10 ns
Internal Reference voltage		
Pin 3 : Vref out (R_{load} > 20 kΩ)	Std 7.8 Volt / on request 6.0 to 8.5 Volts (source resistance 1 kΩ)	
Stability vs temperature range	Vref out ± 3 mV	

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