OCXO 8665/ 8666
Oven Controlled Crystal Oscillator

Product description

The 8666 series provides superior aging and frequency stability in a compact case.
Base models can be customized to your specifications to fit with your applications.

Features

- 5th overtone crystal resonator
- Wide operating temperature range (- 20°C to 70°C)
- Sine or HC-MOS / TTL-compatible output
- Low phase noise / Low aging option

Applications

- Precise time keeping and navigation equipment:
  GPS, Loran-C and OMEGA receivers
- Low phase noise frequency synthesizers, spectrum analysers and test instruments
- Reference clock for digital telecommunications equipment:
  Switching, MUX, PABX, DACS
- Cellular/Paging control/Transceiver stations:
  BCS/BTC
- Clock reference for equipment calibration
- Tactical military communication systems

OSCILLOQUARTZ
A COMPANY OF THE SWATCH GROUP

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OCXO 8665/ 8666
Technical Specification

Standard / Option	Standard	Option
Crystal resonator	AT-cut, 5th overtone	
Standard frequencies	5 /8.192 / 10 MHz	
Operating temperature range (X)	**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 (aging after 30 days of continuous operation)	2 x 10^{-10}/day 5 x 10^{-9}/month 3 x 10^{-8}/year	**G** : 1 x 10^{-10}/day **H** : 5 x 10^{-11}/day **J** : 3 x 10^{-11}/day see table
Over temperature range (Y)	Std : **<** 8 x 10^{-9} pp	**2**: < 2 x 10^{-9} pp see table
Versus supply voltage changes (Vcc ± 5%)	< 5 x 10^{-10}	
Versus load changes (50Ω ± 10%)	< 5 x 10^{-11}	
Short term stab. σ(τ) (0.2 to 10s)	< 1 x 10^{-11}	
Electronic frequency control	> ± 0.3 ppm (0 to + 10 Volt) / Maximum slope deviation < 10 %	
Power Supply (P)		
Input voltage range (DC)	**8665:** +24 Volts ± 5% **8666:** +12 Volts ± 5%	Consult factury
Power consumption	< 2.5 W @ +25°C, < 8W during warm-up	
Environment		
Storage temperature	- 40°C to +125°C	
Vibration	MIL-STD 167-1	
Shock	50 g, 11ms, 3 shocks in each direction of the main axis	
Size (L x W x H)	51.1 x 41.1 x 31.0 mm (2.01" x 1.62" x 1.22")	
Weight	100g	
Outline and electrical connections	see table	
Outputs Characteristics (Z)	**S**	**T**
Wave form (load)	Sine	Square
Level (Tol.) / Impedance	0.2 Vrms (-10+20%) / 50 Ω	HCMOS / TTL compatible
Phase noise (Bw = 1 Hz)	see table	Consult factury
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)	6.5 to 8.5 Volts (source resistance 1 kΩ)	
Stability vs temperature range	Vref out ± 3 mV	

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Phase noise (BW = 1 Hz)

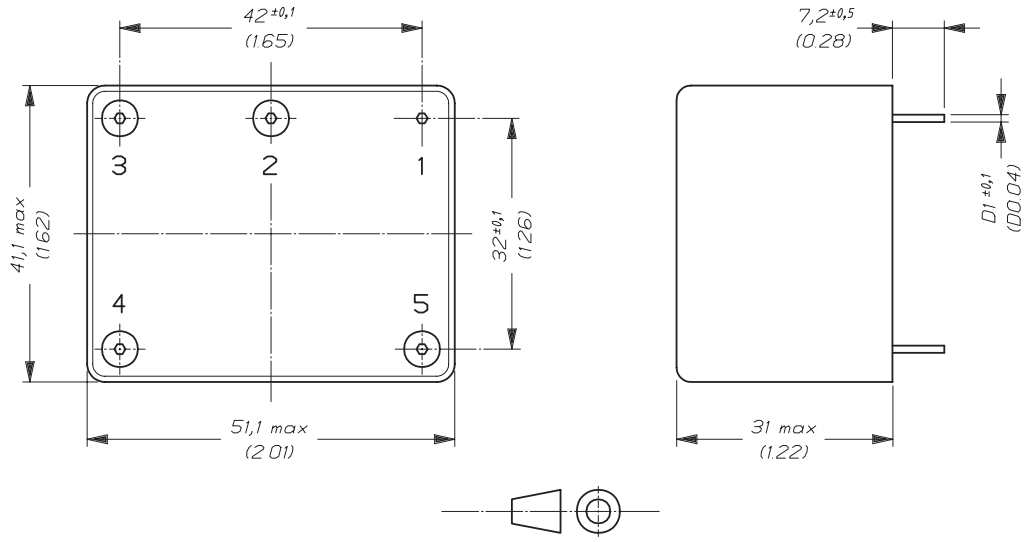
Frequencies		5 MHz		8.192 MHz		10 MHz	
Standard / Option L		Standard	Option L	Standard	Option L	Standard	Option L
Phase noise	1 Hz	-100 dBc	-110 dBc	-100 dBc	-105 dBc	-95 dBc	-100 dBc
	10 Hz	-130 dBc	-132 dBc	-130 dBc	-132 dBc	-125 dBc	-125 dBc
	100 Hz	-140 dBc	-140 dBc	-140 dBc	-140 dBc	-135 dBc	-140 dBc
	1'000 Hz	-145 dBc	-145 dBc	-145 dBc	-145 dBc	-145 dBc	-150 dBc

Aging

	Standard	Option G	Option H	Option J
Aging per day	2.00E-10	1.00E-10	5.00E-11	3.00E-11
Aging per year	3.00E-08	2.00E-08	1.50E-08	1.00E-08
After continuous operation of	30 days	30 days	60 days	90 days
Applicable for	5 / 8.192 / 10 MHz	5 / 8.192 / 10 MHz	5 / 8.192 MHz	5 MHz

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

OCXO 8665/ 8666
Ordering Information

Example : **8665 - A - 2 - S - G - L 5 MHz**

Type

Model
5: +24V $_{DC}$

Operating temperature range
A: Standard

Frequency stability over temperature range
2: < 2E-9 peak peak

Output signal
S: Sine wave

Option aging
G: 1E-10/day

Option Low phase noise
L: Low phase noise

Nominal frequency output
5 MHz

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