



OCXO 8653 ultra low phase noise

Oven Controlled Crystal Oscillator

The **8653** OCXO model offers Ultra Low Phase Noise, excellent stability and spurious rejection in a 65x65x65 mm package.

The **8653** OCXO standard frequencies include 5 and 10 MHz.

The **8653** OCXO make use of high performance SC cut quartz crystal resonators.

The **8653** OCXO main applications include satellite data transmission ground terminals, precision primary frequency reference clocks, test equipment instrumentation, precision frequency counters and synthesizers.

Highlights

- Excellent phase noise
- High frequency stability
- Wide operating temperature range
- RF output on SMA connector
- Power and EFC via 9 pin D subminiature

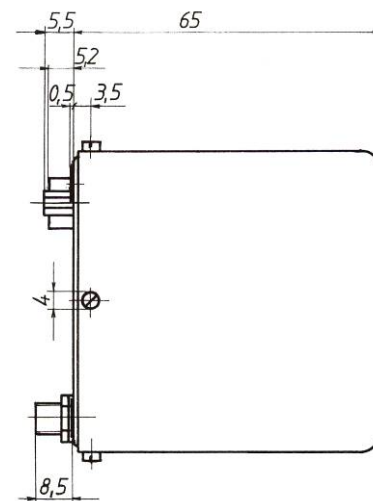
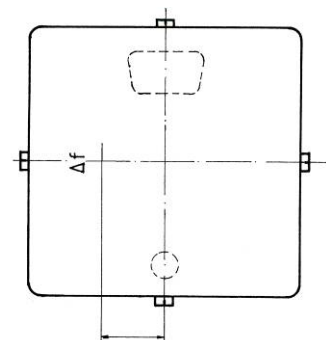
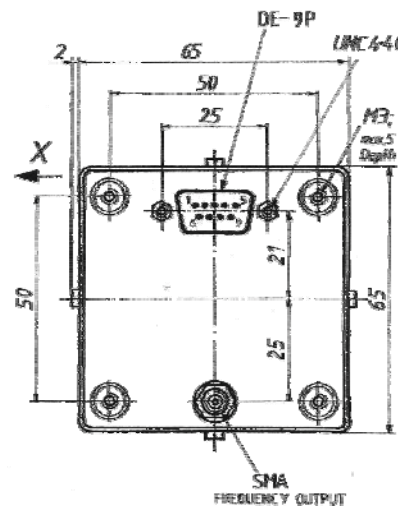
Applications

- Satellite data transmission ground terminals
- Instrumentation
- Transceiver stations

Phase noise L (f) (BW = 1Hz)			
Frequency		5 MHz	10 MHz
Phase noise	1Hz	- 105 dBc	- 100 dBc
	10 Hz	- 135 dBc	- 130 dBc
	100 Hz	- 150 dBc	
	1k Hz	- 156 dBc	
	10k Hz	- 160 dBc	
	100k Hz	- 160 dBc	
	1 MHz	- 160 dBc	

Outline and Electrical connections.

All dimensions in mm (inches)



Pin-out connections

- 1: NC
- 2: GND
- 3: GND
- 4: Vref: 9.3V DC (optional)
- 5: VCO
- 6: NC
- 7: +Power supply 24V DC
- 8: NC
- 9: NC

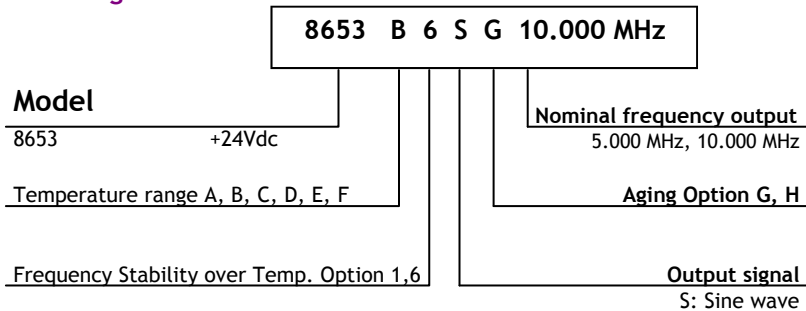
Technical Specifications

OCXO 8653

Oven Controlled Crystal Oscillator

Standard / Option	Standard	Option
Crystal Oscillator	SC-cut P3	
Standard frequencies	10 MHz / 5 MHz	Other frequency consult factory
Operating temperature range	A -20°C to +70°C D -10°C to +70°C	B 0°C to +70°C E -40°C to +70°C C 0°C to +60°C F 0°C to +85°C
Frequency stability (D f/f)		
Over temperature range (Y)	2x10 ⁻⁸	1: <1x10 ⁻⁸ peak peak 6: <6x10 ⁻⁹ peak peak
Long term stability (aging after 30 days of continuous operation)	Standard: 5x10 ⁻¹⁰ /day 7x10 ⁻⁸ /year	G: 2x10 ⁻¹⁰ /day 3x10 ⁻⁸ /year H: 1x10 ⁻¹⁰ /day 1.5x10 ⁻⁸ /year
Versus supply voltage changes (Vcc ± 5%)	< ±5x10 ⁻¹⁰	
Versus load changes (50Ω ± 10%)	< ±5x10 ⁻¹⁰	
Short term stability σ (τ) @ 1s to 10s	5MHz: < 1x10 ⁻¹²	10MHz: < 2x10 ⁻¹²
Electronic frequency control : Z > 56 kΩ	>± 0.8 ppm with standard aging/Linearity<10%/Positive slope 0 to 10 Volts other on request	
Power Supply (P)		
Input voltage range (DC)	+24 Volts ± 5%	
Power consumption 25 °C	< 8W during warm up/< 2.5W after warm-up/warm up time 15mn	
Outputs Characteristics	S	
Wave form	Sine	
Level (Tol.) / Impedance	> 6dBm/50Ω	
Phase noise	See first page table	
Harmonics (Typical)	-40 dBc	
Spurious in the frequency range up to 1 MHz	< -80 dBc	
Stability Vref. Temperature range	9.3V ±20mV	
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)	65 x 65 x 65mm	
Weight	~ 200g	
Outline and electrical connections	See drawing first page	

Ordering Information



Available thermal options

Temp.range	Frequency Stability over temperature		
	Std:2x10 ⁻⁸	1:1x10 ⁻⁸	6:6x10 ⁻⁹
A	✓	✓	
B	✓	✓	✓
C	✓	✓	✓
D	✓	✓	
E	✓		
F	✓		

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

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