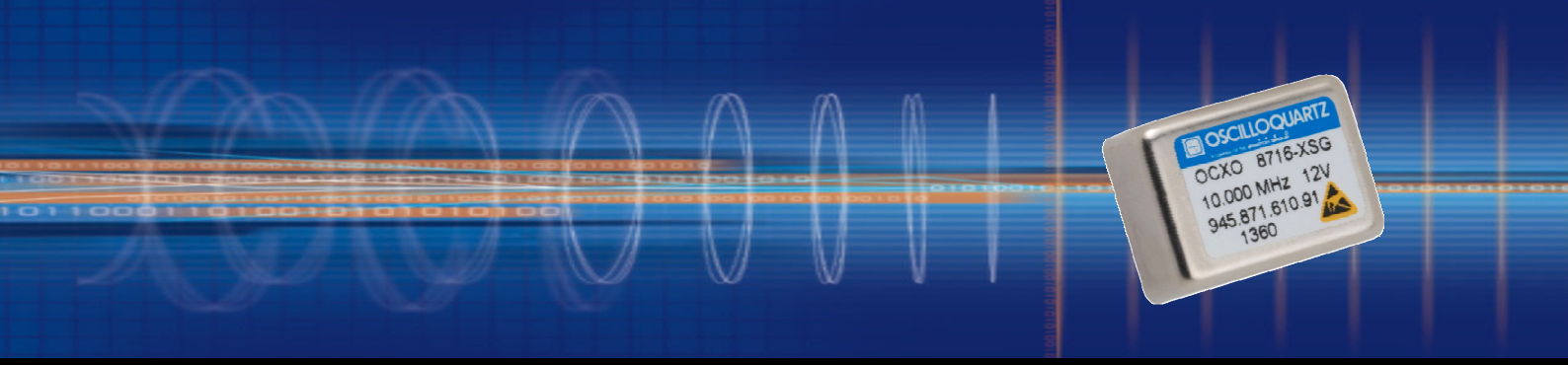


OCXO 8716 / 8717

C08 15,3mm package

Oven Controlled Crystal Oscillator

The 8716/8717 series offer low aging and excellent stability options in 15,3mm package.

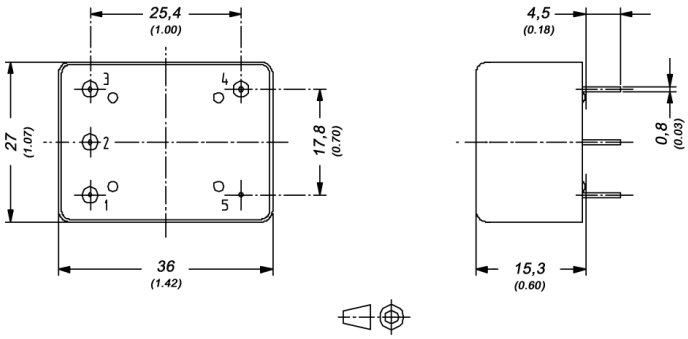
Features
- Low power supply
- High stability performance thermal & long term
- CO-08 footprint low profile 15,3 mm (0.6”) tall

Benefits
- Single power supply design
- Easily interfaces with analog or digital circuits
- Fits all telecommunications requirements
- Can be used in difficult thermal condition
- Small volume

Applications
- WiMAX, LTE base station clocks
- High speed data transmission
- Reference clock for digital telecommunications equipment: **Switching, MUX, PABX, DACS**
- Fits in 4TE Micro-TCA blades

Model Selection	*8716*	*8717*
DC Supply	12V	5V
Height	15,3mm (0.6”)	15,3mm (0.6”)

Outline and Electrical connections
All dimensions in mm (inches)



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

Available thermal options

	Frequency Stability over temperature		
Temp.range	**Std:**$2x10^{-8}$	**Opt.1:**$1x10^{-8}$	**Opt.5:**$5x10^{-9}$
B,C,D	✓	✓	✓
A,E	✓	✓	–

Phase noise L (f) (BW = 1Hz)		
Frequency		**10 MHz S**
Phase noise	1Hz	- 90 dBc
	10 Hz	- 120 dBc
	100 Hz	- 135 dBc
	1k Hz	- 140 dBc
	10k Hz	- 150 dBc

Ordering Information

871x B 1 T G 10 MHz

Model
8716–8717

Operating temperature range
B: 0 to 70°C

Frequency stability over temperature range
1: <$1x10^{-8}$ peak to peak

Nominal frequency output
10.000 MHz

Long term frequency stability
G: $2x10^{-10}$/day

Output signal
S:Sine wave; **T:**HCMOS; **U:**LV CMOS

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OSCILLOQUARTZ
SWATCH GROUP ELECTRONIC SYSTEMS

Technical Specifications

OCXO 8716 / 8717

Oven Controlled Crystal Oscillator

Standard / Option	Standard	Option
Crystal Oscillator	SC-cut, 3rd overtone	
Standard frequencies	10 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 **D:** -10°C to +70°C	**E: -40**°C to +70°C
Frequency stability (Δ f/f)		
Long term stability (aging after 30 days of continuous operation)	$5x10^{-10}$/day $1x10^{-7}$/year	**G:** $2x10^{-10}$/day **H:** $1x10^{-10}$/day **J:** $7x10^{-11}$/day on demand
Over temperature range	**Std:** < $2x10^{-8}$ peak to peak	**1:** < $1x10^{-8}$ peak to peak **5:** < $5x10^{-9}$ peak to peak
Versus supply voltage changes (Vcc ± 5%) Steady state	± $5x10^{-10}$	
Versus load changes (50Ω ± 10%) Steady state	± $5x10^{-10}$	
Short term stability σ (τ) (1s to 10s)	< $5x10^{-11}$	
Warm up (25°C in calm air)	< 7 min (to be within ± $1x10^{-8}$ x F_0, F_0 refers to frequency after 1hr operation)	
Electronic frequency control	>± 0.6 ppm (0 to +5 Volts) / Linearity < 10% / Positive slope	
Power Supply (P)	**8717**	**8716**
Input voltage range (DC)	+5 Volts ± 5%	+12 Volts ± 5%
Power consumption	< 1.4W after warm-up at 25°C, < 4W during warm up	< 1.4W after warm-up at 25°C, < 6W during warm up
Environment (Not operating)		
Storage temperature	-40°C to +100°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)	**8716 / 8717:** 36.0 x 27.0 x 15.3mm (1.42”x1.07”x0.6”)	
Weight	35g	
Outline and electrical connections	See drawing	

Outputs Characteristics	S	T	U
Wave form	Sine	Square	Square
Level (Tol.) / Impedance	> -1.5 dBM/50Ω **(8717)** > 4 dBM/50Ω **(8716)**	H CMOS compatible	LV CMOS compatible
Phase noise	See table		
Harmonics / VH	< -30 dBc	VH: > 4.5 Volts	VH: > 3.0 Volts
Spurious / VL	< -70 dBc	VL: < 0.5 Volts	VL: < 0.3 Volts
Symmetry	Not applicable	45% - 55%	45% - 55%
Rise / Fall time (10 / 90%, 15pF)	Not applicable	< 10ns	< 5ns
Internal reference voltage	8717 : 3,8 ± 0.1V(Vcc = 5V)	8716 : 9,7 ± 0.1V(Vcc = 12V)	
Source Impedance	1kΩ		

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

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