



Description

The OX-202 is part of a series of oscillators specifically designed to support Timing Over Packet applications, in particular 1588-2008 based frequency and phase reference systems. The OX-202 is stratum 3E compliant.

Features

- Available in three standard frequencies (10MHz, 12.8MHz and 20MHz)
- Excellent temperature stability
- Superior long term stability
- Optimized to support Timing Over Packet applications
- Stratum 3E compliant according to GR1244

Applications

- SETS clock support
- Wireless Base Stations
- Edge and Core Routers

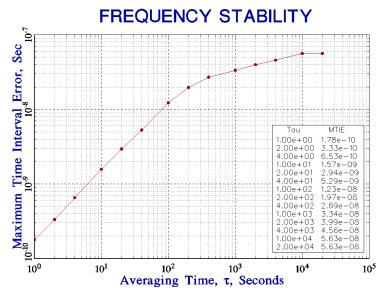
Performance Specifications

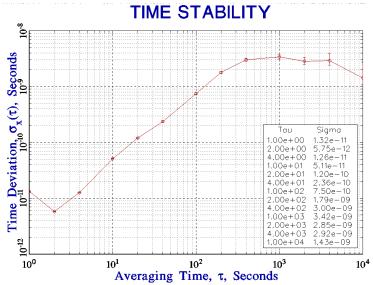
Frequency Stability ¹					
Parameter	Min	Тур	Max	Units	Notes
Over all stability (df/f ₀)			±2.6	ppm	Free run accuracy (20 years)
Drift			±1	ppb	Over 24 hours and ±3.0°C
Temperature stability (df/f)			10	ppb pk -pk	-40 to 85°C
Initial Tolerance (df/f ₀)			±0.5	ppm	@25°C
vs. supply voltage change (df/f)			±2	ppb	static; 3.3V ± 1%
vs. load change (df/f)			±5	ppb	static; Load ± 5%
vs. aging / daily (df/f)			±0.75	ppb	after 7 days; @25°C
vs. aging / month (df/f)			±25	ppb	after 7days; @25ºC
vs. aging / year (df/f)			±100	ppb	after 7 days; @25°C
vs. aging / 20 years (df/f)			±2.0	ppm	after 7 days; @25°C
Phase Stability					
Parameter	Min	Тур	Max	Units	Notes
Jitter			1	ps rms	@12kHz to 20MHz
MTIE 1s		0.2		ns	Wander Generation per GR1244, system performance when locked through a 1mHz loop bandwidth, see typical performance data.
MTIE 10s		1.6		ns	
MTIE 100s		12		ns	
MTIE 1000s		34		ns	

Performance Specifications

Phase Stability (continued)							
Parameter	Min	Тур	Max	Units	Notes		
TDEV 1s		0.01		ns	Wander Generation per GR1244, system		
TDEV 10s		0.05		ns	performance when locked through a		
TDEV 100s		0.8		ns	1mHz loop bandwidth, see typical performance data.		
TDEV 1000s		3.5		ns			
Phase Noise							
Parameter	Min	Тур	Max	Units	Notes		
Phase Noise at 1 Hz Offset			-85	dBc/Hz			
Phase Noise at 10 Hz Offset			-115	dBc/Hz			
Phase Noise at 100 Hz Offset			-135	dBc/Hz			
Phase Noise 1 kHz Offset			-145	dBc/Hz			
Phase Noise at 10 kHz Offset			-150	dBc/Hz			
Phase Noise at 100kHz Offset			-150	dBc/Hz			
		F	RF Output				
Signal		HCMOS					
Load	15			pF	±10%		
Rise Time	<10			ns	@ 10% to 90% V _{out}		
Fall Time	<10			ns	@90% to 10% V _{out}		
Duty Cycle	45/55			%	@ 50% V _{out}		
V Low	0.4			V	With V _s 3.0V and 15pF load		
V High	2.4			V	With V _s 3.0V and 15pF load		
V Low	0.5			V	With V _s 5.0V and 15pF load		
V High	3.5			V	With V _s 5.0V and 15pF load		
			Supply				
Supply Voltage (V _s)		3.3, 5.0		٧	±10%		
Power consumption	<1.5			W	Steady state, @ $V_s = 3.3V$, 25°C		
Power consumption	<3.3			W	During warm up, @ $V_s = 3.3V$, 25°C		
Additional Parameters							
Warm Up Time	3			minutes	@25°C to final frequency (1 Hour) within ±0.1ppm		
ROHS	ROHS 6 compliant						
Washable	Washable device (hermetically sealed).						
		Absolute	Maximum R	atings			
	Min			Max	Units		
Operating temperature range	-40			85	٥С		
Storage temperature range		-50		90	٥С		

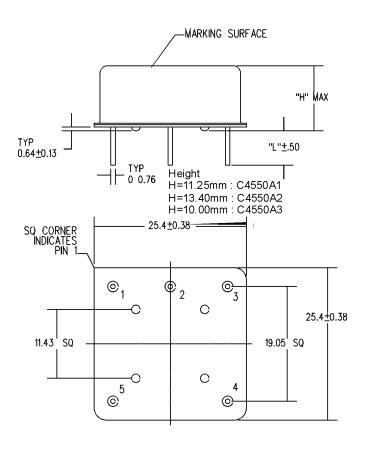
Typical Performance





Wander Generation per GR1244, system performance when locked through a 1mHz loop bandwidth.

Outline Drawing / Enclosure

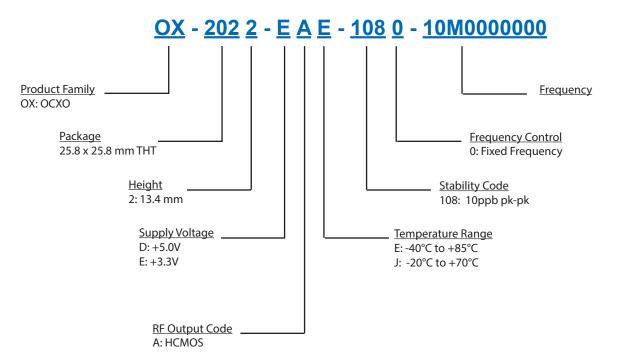


Dimensions in mm

Height Codes					
Code	Height "H"	Pin Length "L"			
2	13.4	6.35			

Pin Assignment				
Pin	Connection			
1	RF Out			
2	Ground (case)			
3	NC			
4	NC			
5	Supply Voltage Input (V _s)			

Ordering Information



Notes:

- 1. Contact factory for improved stabilities or additional product options. Not all options and codes are available at all frequencies.
- 2. Unless other stated all values are valid after warm-up time and refer to typical conditions for supply voltage, frequency control voltage, load, temperature (25°C).
- 3. Phase noise degrades with increasing output frequency.
- 4. Subject to technical modification.
- 5. Contact factory for availability.



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