

Helping Customers Innovate, Improve & Grow



The OX-206 is an Ovenized Crystal Oscillator (OCXO) optimized for high operating temperature ranges up to 95°C. The oscillator is ideal for applications like passively cooled base basestations, where small size and limited power prevent active heat transfer.

Features

- Operating temperature range up to 95°C
- Surface Mount package
- Low Profile Compact Package
- Standard frequencies: 10, 20 MHz
- Temperature stability +/-10 ppb
- Aging rate to 1 ppb/day

Applications

- Small Cell
- passively cooled equipment
- LTE Basestation

Performance Specifications

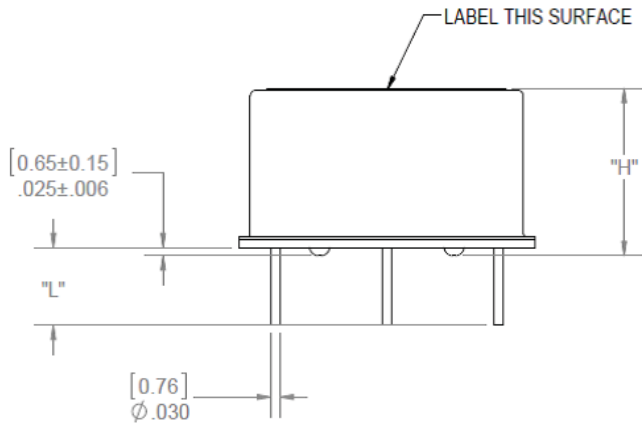
Frequency Stabilities ¹ (10 & 20 MHz)					
Parameter	Min	Typical	Max	Units	Condition
vs. operating temperature range (referenced to +25°C)	-10		+10	ppb	-40 to +95°C
Initial tolerance	-100		100	ppb	at time of shipment, V _s ±5% static Load ±5% static after 30 days of operation after 30 days of operation after 30 days of operation
vs. supply voltage change	-5		+5	ppb	
vs. load change	-5		+5	ppb	
vs. aging / day	-1		+1	ppb	
vs. aging / year	-100		+100	ppb	
vs. aging / following year	-50		+50	ppb	
start up time		1	2	sec	
Warm-up time		5		minutes	to ±10 pb of final frequency (1 hour reading) @ +25°C

Performance Specifications

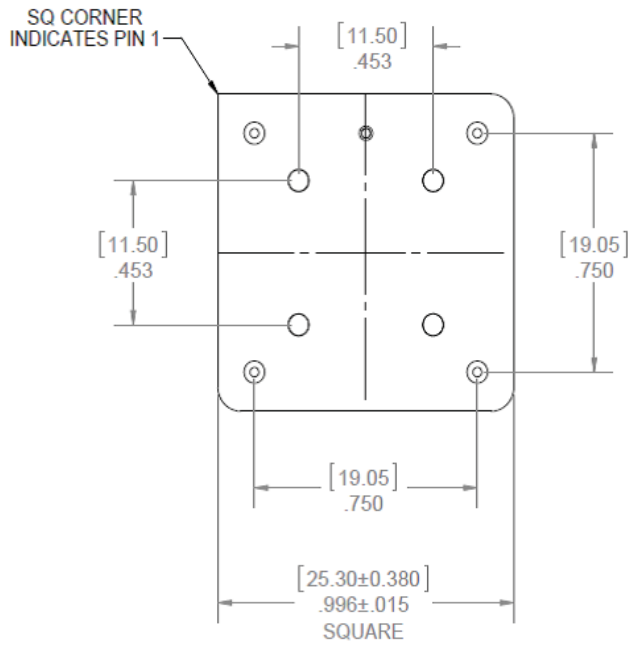
Supply Voltage (Vs)						
Parameter	Min	Typical	Max	Units	Condition	
Supply voltage	3.135	3.3	3.465	VDC		
	4.75	5.0	5.25	VDC		
Power consumption			5	Watts	during warm-up	
			2	Watts	steady state @ +25°C	
RF Output						
Signal [standard]	HCMOS					
Load		15		pF		
Signal Level (Vol)			0.4	VDC	Vs=3.3V and 15pF Load	
Signal Level (Vol)			0.5		Vs=5.0V and 15pF Load	
Signal Level (Voh)	2.4			VDC	Vs=3.3V and 15pF Load	
Signal Level (Voh)	3.5				Vs=5.0V and 15pF Load	
Duty Cycle	45		55	%	@ (Voh-Vol)/2	
Rise time			5	ns		
Fall time			5	ns		
Signal	Sine Wave					
Load		50		Ω		
Output Power @3.3V	2	5	8	dBm	50 Ω load	
Output Power @ 5.0V	5	8	11	dBm	50 Ω load	
Harmonics			-30	dBm	50 Ω load	
Frequency Tuning (EFC)						
Tuning Range	Fixed OCXO; No adjust				Opti- on ⁵	
	±0.75		±2.0	ppm		
Linearity	10%					
Tuning Slope	Positive					
Control Voltage Range	0.0	1.4	2.8	VDC	Vs=3.3V	
	0.0	2.0	4.0	VDC	Vs=5.0V	
modulation bandwidth	150			Hz		
Reference Voltage Output (Vref)						
the OX-206 can be configured with a reference voltage output. This configuration requires a custom part number. Please contact the factory for ordering information.						
Reference Voltage	2.75	2.8	2.85	VDC	Vs = 3.3 VDC	
	3.92	4.0	4.08	VDC	Vs = 5.0 VDC	
Additional Parameters						
Phase Noise ³			-90	dBc/Hz	1 Hz	@ 10 MHz
			-120	dBc/Hz	10 Hz	
			-140	dBc/Hz	100 Hz	
			-145	dBc/Hz	1 kHz	
			-150	dBc/Hz	10 kHz	
Weight			10	g		

Absolute Maximum Ratings					
supply voltage (Vs)			7.0	V	
Output Load			50	pF	
Operable Temperature Range	-40		+105	°C	
Storage Temperature Range	-40		+125	°C	

Outline Drawing / Enclosure



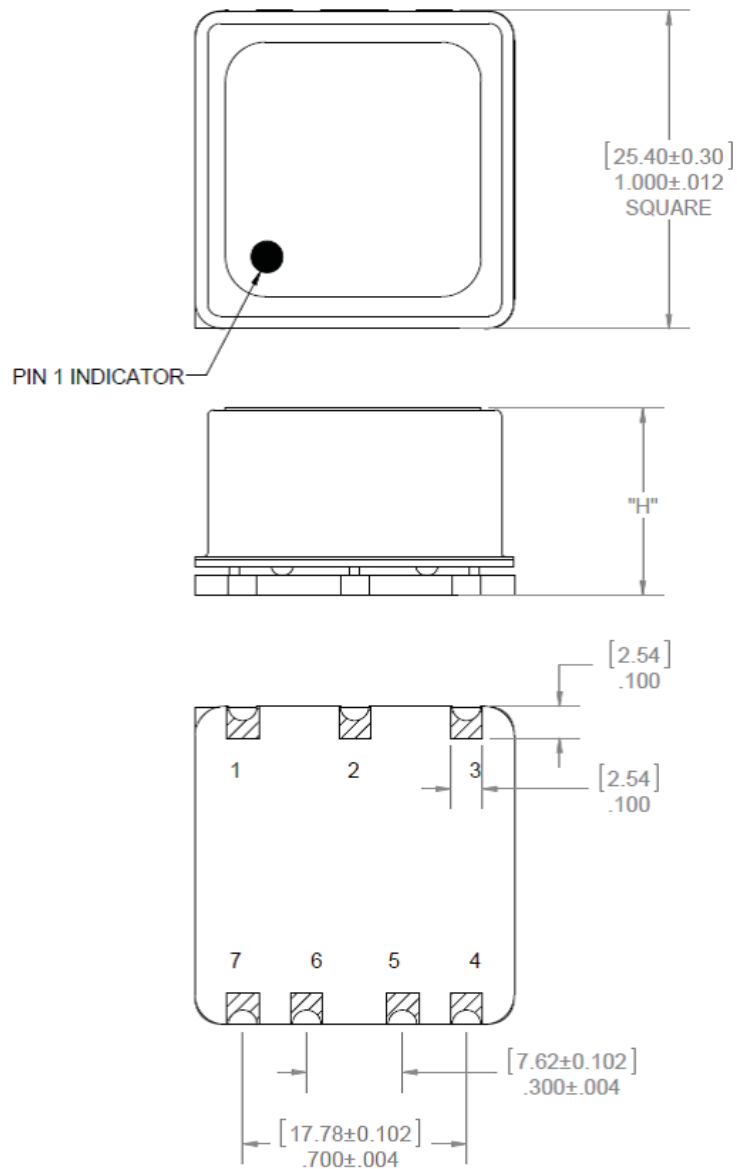
OX-2061	
Height "H"	Pin Length "L"
13.5 mm	6.2 min.



Pin Connections	
1	RF Output
2	Ground (Case)
3	Electronic Frequency Control Input (EFC)
4	Reference Voltage Option
5	Supply Voltage Input (VS)

Dimensions in inches and [mm]

Outline Drawing / Enclosure

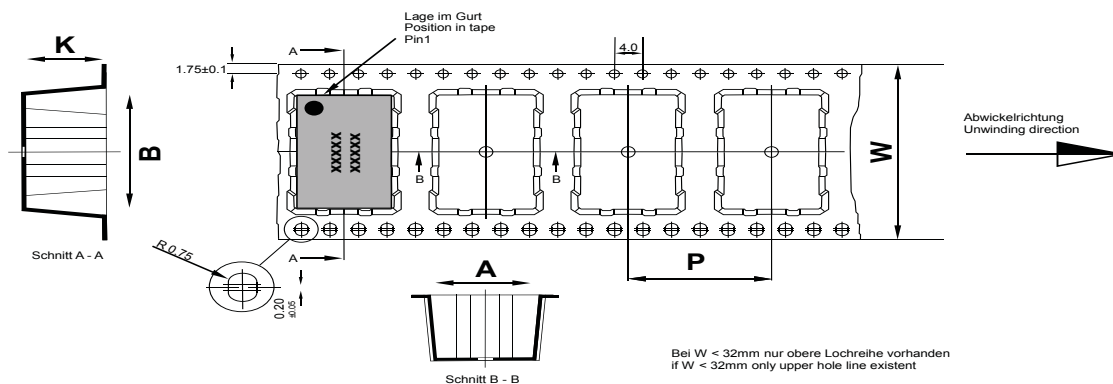


OX-2065	
Height "H"	cover material
15.00	metal

Pin Connections	
1	No Connect
2	No Connect
3	Supply Voltage Input (Vs)
4	RF Output
5	No Connect
6	No Connect
7	Ground (Case)

Dimensions in mm

Standard Shipping Method (OX-2065)



Maßangaben in mm:

A, B und K Maße von Bauelement abhängig

Fertigungstoleranzen entsprechen der DIN IEC 286-3

Dimension in mm:

A, B und K are dependent upon component dimensions

production tolerance complying DIN IEC 286-3

All dimensions in millimeters unless otherwise stated

Enclosure Type	Tape Width W (mm)	Quantity per meter	Quantity per reel	Dimension P
OX-206	44	31.25	100	32

Recommended Reflow Profile

IPC/JEDEC J-STD-020 (latest revision)

Additional Information:

This SMD oscillator has been designed for pick and place reflow soldering.

SMD oscillators must be on the top side of the PCB during the reflow process.

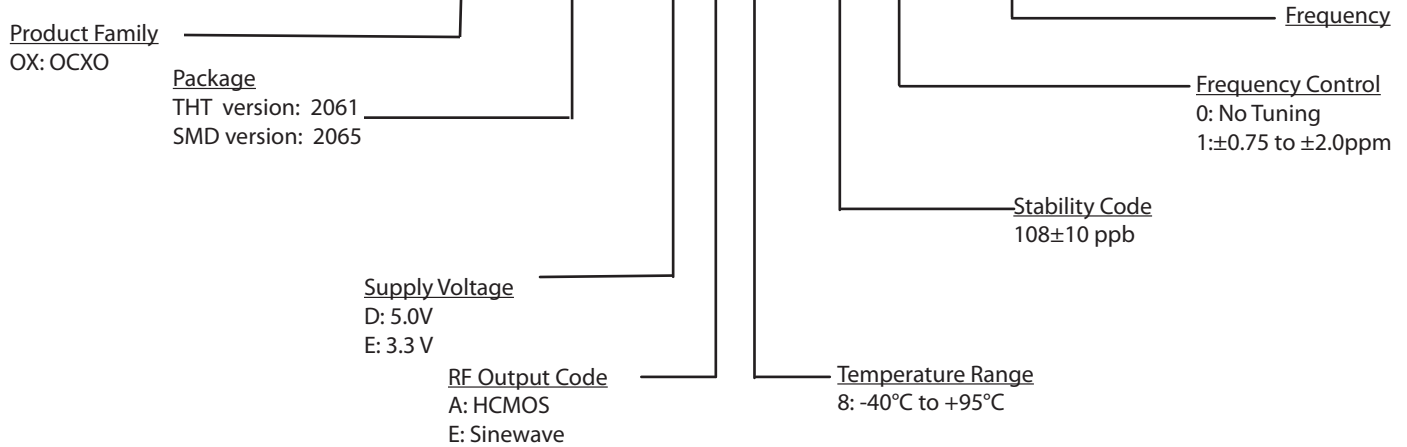
Additional Environmental Conditions

Shock (Endurance)	MIL-STD-202, Method 213, Condition J, 30g 11 ms				
Sine Vibration (Endurance)	MIL-STD-202, Method 201 and 204, Condition A, except 5g to 500 Hz, 1 sweep each axis				
Random Vibration (Endurance)	MIL-STD-202, Method 214, Condition I-D				
Humidity	MIL-STD-202, Method 103, Condition B, 100% rh				
Seal	MIL-STD-202, Method 112, Condition D, hermetic, washable				
Altitude	MIL-STD-202, Method 105, sea level to space				
Resistance to Soldering Heat	MIL-STD-202, Method 210, Condition A,B,C				
Terminal Strength	MIL-STD-202, Method 211, Condition C (5 bends at 45°, 2 lbs)				
Moisture Sensitive Level	1				
RoHS	6 (fully compliant)				
Storage Temperature Range	-55		+125	°C	

Note: All temperatures refer to topside of the package, measured on the package body surface.

Ordering Information

OX - 2061 - D A 8 - 108 0 - 10M0000000



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.

For Additional Information, Please Contact

USA:

Vectron International
267 Lowell Road
Suite 102
Hudson, NH 03051
Tel: 1.888.328.7661
Fax: 1.888.329.8328

Europe:

Vectron International
Landstrasse, D-74924
Neckarbischofsheim, Germany
Tel: +49 (0) 7268.801.100
Fax: +49 (0) 7268.801.282

Asia:

Vectron International
68 Yin Cheng Road(C), 22nd Floor
One LuJiaZui
Pudong, Shanghai 200120, China
Tel: +86 21 6194 6886
Fax: +86 21 6194 6699

Disclaimer

Vectron International reserves the right to make changes to the product(s) and or information contained herein without notice. No liability is assumed as a result of their use or application. No rights under any patent accompany the sale of any such product(s) or information.

Rev: 10-28-2014