

## OCXO 2020

### Features:

- High reliability
- Excellent phase noise
- Mass production with good uniformity
- ISO9001:2008 & ISO 14001:2004 certificated
- ROHS compliant
- Custom build capability



### Specification:

Parameter	Min	Typ.	Max	Unit	Condition	Note
<b>Frequency Stability</b>						
Frequency	5.0		100.0	MHz		
Initial Frequency Accuracy	-200		+200	ppb	Vc=2.0V/ @25°C, after 15mins power on ref to nominal frequency.	
Supply Variation	-1.0		+1.0	ppb	Vs±5%, @25°C	
Load Variation	-1.0		+1.0	ppb	CL±5%, @25°C	
Aging	per day	-0.3	+0.3	ppb	Aging after 30 days of operation	For 10.000MHz operational frequency
	first year	-80	+80	ppb		
	10 years	-0.4	+0.4	ppm		
Temperature Stability	-10		+10	ppb	-20°C ~ +70°C @ 25°C	
Short Tem Stability ( in still air)			0.05	ppb/s	after power on 1hour@25°C	
Warm -up time			5	min	Vc=2.0V, @+25°C, Within ±10PPb of final frequency with reference after 1 hour on	
Freq Retrace Characteristics	-10		+10	ppb	Power on 24hs, then off 24hs, switch on again, after 0.5h , measure freq.vs. frequency prior to power off.	
<b>Supply Voltage/Current</b>						
Voltage Supply	4.75	5.0	5.25	V		
Operating Current			600	mA	during warm up	
			250	mA	at steady state	
<b>Output Characteristics</b>						
CMOS	Load		15	pF		
	Output			0.5	V	

\* Above specification subject to change without prior notice, please consult our sales @ [www.crystal-bj.com](http://www.crystal-bj.com)



	Level(VOL)						
	Output Level(VOH)	3.8			V		
	Duty Cycle	45		55	%		
	Rise Time/ Fall Time			5	ns		
Sine-Wave	Load		50		$\Omega$		
	Level	5	7	9	dBm		
	Harmonics Level			-40	dBc		
Spurious				-70	dBc		
<b>Phase Noise</b>							
Phase Noise				-90	dBc/H z	@1Hz	For 10.00MHz operational frequency
				-120		@10Hz	
				-140		@100Hz	
				-145		@1KHz	
				-150		@10KHz	
				-155		@100KHz	
<b>Voltage Control Characteristics</b>							
Control Voltage Range	0	2.0	4.0	V			
Frequency tuning range	-2.4		-0.8	ppm	Vc=0V	For 10.00MHz operational frequency	
	-200		+200	ppm	Vc=2.0V		
	+0.8		+2.4	ppm	Vc=4V		
Slope	Positive						
Linearity	-10		+10	%			
Input Impedance	100			K $\Omega$			
<b>Mechanical specification &amp; Package</b>							
Package Size	Refer to the below drawing						
Pin Connector Size							
Pin Connector Definition							
ROHS	RoHS compliant (network exempted)						

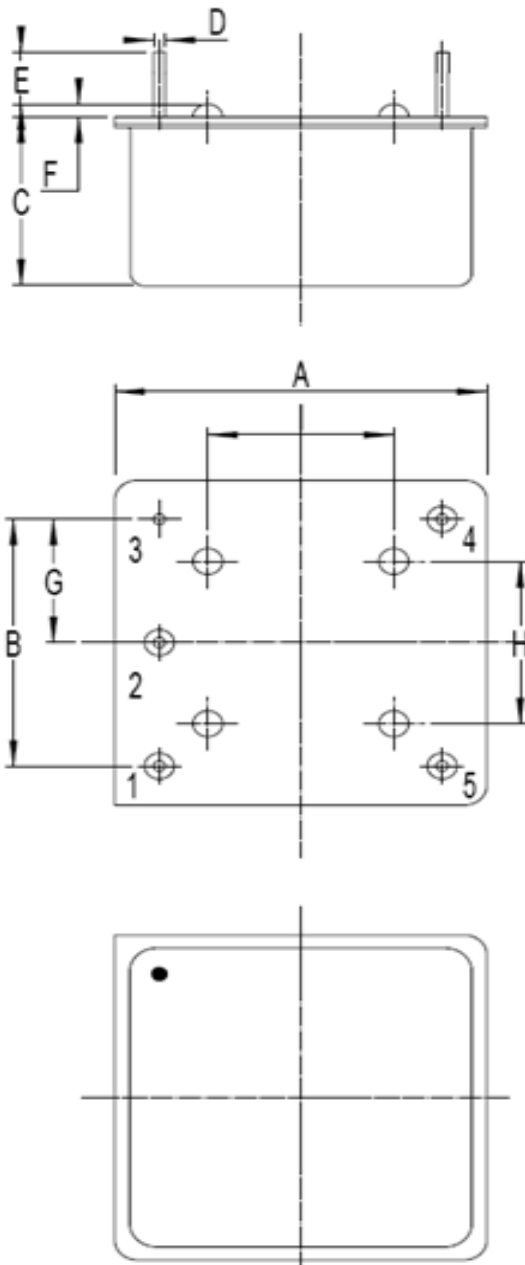
<b>Environmental, Mechanical Conditions</b>	
Operating temp range	-20°C~+70°C
Operable temp range	-40°C~+85°C
Storage temp range	-50°C~+105°C
Drop Test	The test shall be carried out as the provisions of the IEC60028-2-32 test Ed. 10cm height, 3 times on hard board with thickness of 3cm

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Bumping Test	Device are bumped to three mutually perpendicular axes at peak acceleration of 400m/s <sup>2</sup> , each 4000±10 times , 6ms pulse duration time.
Vibration test	Frequency range: 1Hz-4Hz-100Hz-200Hz Acceleration: 0.0001g <sup>2</sup> /Hz-0.01g <sup>2</sup> /Hz-0.01g <sup>2</sup> /Hz-0.001g <sup>2</sup> /Hz Grms=1.15g Sweep time: 30 minutes (perpendicular axes each sweep time)
Mechanical Shock	100g, 6mS duration, 1/2 sine wave, 3 shocks each direction along 3 mutually perpendicular planes.
Thermal shock	0.5h@-40°C , 0.5h@+85°C , Note: the changing time < 30 seconds, cycling for 100 times

**Dimensions:**

Unit: mm



**Pin Function:**

Pin No.	Pin Function
1	VS
2	Output
3	GND
4	VC
5	NC

Symbol	Dimension (mm)	
	Min	Max
A		20.6
B	14.74	15.74
C		12.0
D	0.4	0.6
E	4.0	5.0
F	0.5	0.7
G	7.52	7.72
H	10.1 nominal	
I	10.1 nominal	



How to Order

OC 20

Code	Size (mm)
OC 20	20.6X20.6X12

Output

Code	Specification
L	LVC MOS
H	HCMOS
S	Sine Wave

Supply Voltage

Code	Specification
3	3.3V±5%
5	5V±5%
2	12V±5%

Temperature Range

Code	Specification
A	0°C to +70°C
B	-20°C to +70°C
C	-40°C to +85°C

Temperature stability

Code	Specification	Temp. range code Available
27	±2X10 <sup>-7</sup>	A~C
17	±1X10 <sup>-7</sup>	A~C
28	±2X10 <sup>-8</sup>	A~C
18	±1X10 <sup>-8</sup>	A~C
58	±5X10 <sup>-8</sup>	A~C
69	±6X10 <sup>-9</sup>	A~B
59	±5X10 <sup>-9</sup>	A~B

Frequency

Eg:10.000MHz

P/N Example: OC20L3C18-10.000MHz