

## OCXO 1409 SMD

### Features:

- High reliability
- 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	10.0		50.0	MHz		
Initial Frequency Accuracy	-200		+200	ppb	Vc=1.65V/@25°C, after 15mins power on ref to nominal frequency.	
Supply Variation	-5		+5	ppb	Vs±5%, @25°C	
Load Variation	-5		+5	ppb	CL±5%, @25°C	
Aging	per day	-1.0	+1.0	ppb	Aging after 30 days of operation	For19.20MHz operational frequency
	first year	-150	+150	ppb		
	10 years	-1.2	+1.2	ppm		
Temperature Stability	-30		+30	ppb	-40°C ~ +85°C @ 25°C	
Short Tem Stability ( in still air)			0.03	ppb/s	after power on 1hour@25°C	
Warm -up time			5	min	Vc=1.65V,@+25°C,Within ±50PPb of final frequency with reference after 1 hour on	
Freq Retrace Characteristics	-50		+50	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	3.135	3.3	3.465	V		
Operating Current			750	mA	during warm up	
			300	mA	at steady state	
<b>Output Characteristics</b>						
CMOS	Load		15	pF		
	Output Level(VOL)			0.4	V	
	Output Level(VOH)	2.4			V	
	Duty Cycle	45		55	%	
	Rise Time/			5	ns	

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



Fall Time							
Spurious			-70		dBc		
<b>Phase Noise</b>							
Phase Noise			-80	dBc/H z	@1Hz	For 19.20MHz operational frequency	
			-110		@10Hz		
			-135		@100Hz		
			-140		@1KHz		
			-150		@10KHz		
			-153		@100KHz		
<b>Voltage Control Characteristics</b>							
Control Voltage Range	0	1.65	3.3	V			
Frequency tuning range	-4.0		-2.0	ppm	Vc=0V	For 19.20MHz operational frequency	
	-200		+200	ppm	Vc=1.65V		
	+2.0		+4.0	ppm	Vc=3.3V		
Slope	Positive						
Linearity	-10		+10	%			
Input Impedance	100			KΩ			
<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	-40°C ~ +85°C
Operable temp range	-40°C ~ +85°C
Storage temp range	-55°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
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

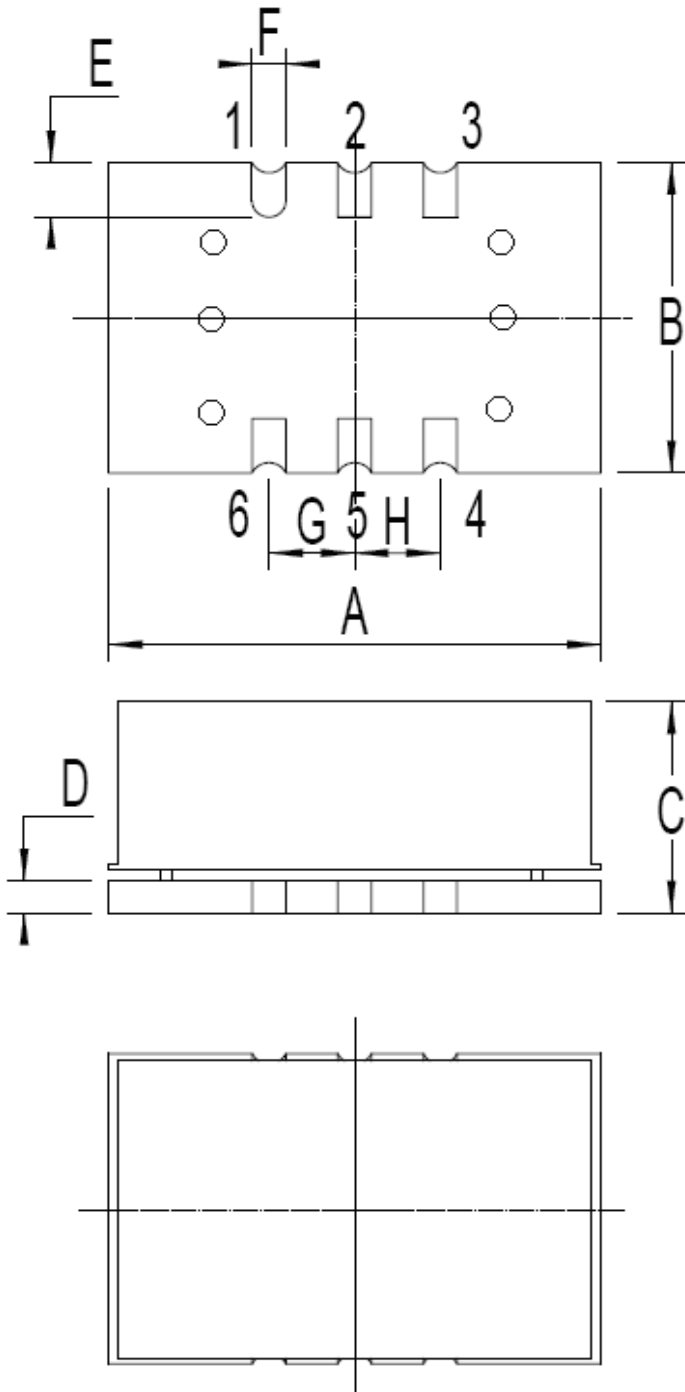
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**Dimensions:**

Unit: mm

**Pin Function:**



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

Symbol	Dimension (mm)	
	Min	Max
A		14.9
B		9.7
C	7.6	8.0
D	0.9	1.1
E	1.6	1.8
F	0.9	1.1
G	2.54 nominal	
H	2.54 nominal	



**How to Order**

OC 09

Output

Supply Voltage

Temperature Range

Temperature stability

Frequency

Code	Size (mm)
OC 09	14.9X9.7X7

Code	Specification
3	3.3V±5%
5	5V±5%

Eg:19.200MHz

Code	Specification
L	LVC MOS
H	HCMOS

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

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

P/N Example: OC09L3C28-19.200MHz