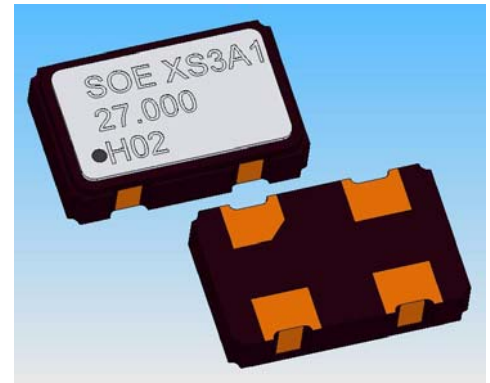


# XS Type Crystal Oscillator

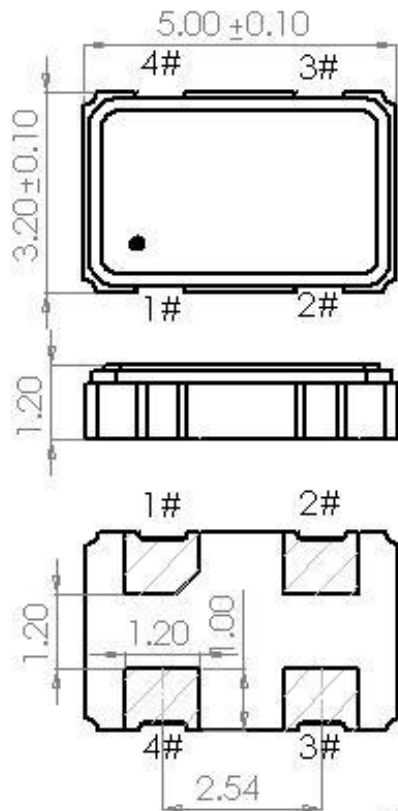


## Features

- CMOS/TTL Compatible Clock Oscillator.
- Typical 5.0 x 3.2 x 1.2 mm ceramic metal SMD package.
- Resistance Seam welding for hermetical seal.
- Tape & Reel packaging for automatic assembly.
- **Lead Free and RoHS compliant**

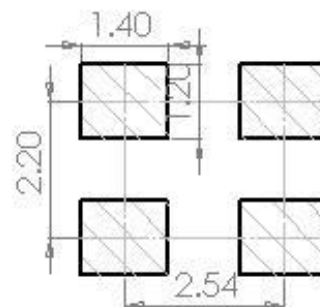
## ORDERING GUIDANCE

Product Type	Supply Voltage (V)	Frequency Stability (ppm)	Operating Temp. Range (°C)	—	Frequency (MHz)
Code: Meaning	Code: Meaning	Code: Meaning	Code: Meaning	Dash	
<b>XS:</b> 5.0x3.2 SMD CMOS/TTL XO	1: 1.8 2: 2.5 3: 3.3 5: 5.0	A: ±25 B: ±50 C: ±100 D: ±20 E: ±10 G: ±15 H: ±30	1: 0~+70 2: -40~+85 3: 0~+85 4: -20~+70 5: -10~+85 6: -10~+70 7: -10~+60 8: 0~+60		XXX.XXXXXX
<b>Ordering example:</b> XS3B1-25.000 5.0x3.2 SMD CMOS/TTL XO, 3.3V, ±50ppm, 0°C~70°C, 25MHz					
<b>Note:</b> If there're any other particular requirements, they should be specified in customers' order.					



PAD No.	Connection
1#	E/D or NC
2#	GND
3#	OUTPUT
4#	VDD

## Suggested Solder Pad Layout



All Dimensions in mm

## Electrical Specification

Parameter	Min				Max				Unit
Supply Voltage ( $V_{DD} \pm 10\%$ )	1.62	2.25	2.97	4.5	1.98	2.75	3.63	5.5	V
Frequency Range	0.5				135	135	135	110	MHz
Frequency Stability	Refer to Ordering Guidance (Overall condition Inclusive of calibration @ 25 °C , operating temperature change, $V_{DD}$ variation, load variation, aging, etc.)								ppm
Operating Temperature Range	Refer to Ordering Guidance								°C
Supply Current									mA
0.5MHz =<F<10MHz	-				3	3	5	7	
10MHz =<F<20MHz	-				5	5	10	15	
20MHz =<F<50MHz	-				10	15	20	30	
50MHz =<F<80MHz	-				15	20	25	40	
80MHz =<F<135MHz	-				20	25	40	60	
Duty Cycle (CMOS)	45				55				%
Output High (Voh)	0.9 $V_{DD}$				-				V
Output Low (Vol)	-				0.1 $V_{DD}$				
Rise Time/Fall Time (tr/ta)	Measured between 10% to 90% of $V_{DD}$ with output load of 15pF								
0.5MHz =<F<5MHz	-				10	8	6	5	nS
5MHz =<F<20MHz	-				8	6	5	4	
20MHz =<F<50MHz	-				6	5	5	4	
50MHz =<F<80MHz	-				5	5	4	3	
80MHz =<F<135MHz	-				5	4	3	2	
Output Load(Fan-out) (CMOS)	15	15	30	50	-				
Tristate Function(Input to Pin1)									
Output Enable	1.26	1.75	2.0	4.0	(With Pin1 floating, Output enabled)				V
Output Disable(Hi-Z)	-				0.5	0.5	0.5	0.8	
Standby Current	-				10				μA
Start Time	-				10				mS
Phase Jitter(RMS, 12KHz to 20MHz)	-				1				pS
Storage Temperature	-55				125				°C