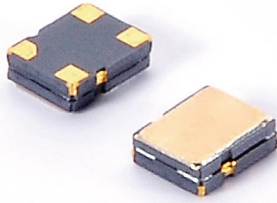




# SMD QUARTZ CRYSTAL OSCILLATOR

# 石英晶体振荡器



## 4 Pad Version 2.0×1.6 mm

- ±20 ppm type available
- Excellent Reliability Performance
- EMI shielding possible by grounded lid
- Reflow soldering temperature: 260°C max
- Ceramic Seam Weld package



RoHS compliant

### ★ PARAMETERS 技术参数

PARAMETERS	参数	SPECIFICATION 规格
Frequency Range	频率范围	1.5~50MHz
Supply voltage	工作电压	1.8V、2.5V、2.8V、3.3V
Input Current	输入电流	See Below
Frequency Stability Overall	频率稳定性	±20ppm~±50ppm
Operating Temp. Range	工作温度范围	-10~+60°C to -40~+85°C
Storage Temp. Range	储存温度范围	-55~+125°C
Output Load	输出负载	HCMOS/TTL (15pF~30pF/10TTL)
Symmetry	占空比	45% ~ 55% typ. (40% ~ 60% max.) at 0.5×Vdc
Start-up time	起振时间	10mS max
Enable/ Disable Function	三态控制	O/E or E/D

○ All specification subject change without notice. 规格变化, 恕不另行通知。

### ★ FREQUENCY STABILITY VS. TEMPERATURE 频率温度特性

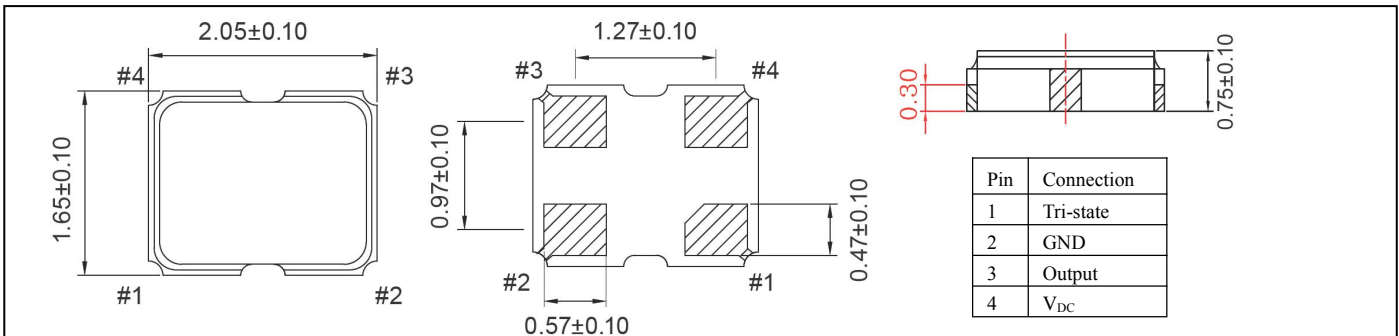
### ★ Rise & Fall TIME MAX. 上升/下降时间

Operation Temperature Range	Frequency Stability			
	±20ppm	±25ppm	±30ppm	±50ppm
-10°C~+60°C	○	●	○	○
-20°C~+70°C		○	●	○
-40°C~+85°C				●

Frequency	Rise & Fall Time	V <sub>DC</sub>	Rise & Fall Time	V <sub>DC</sub>
1.5~9.9 MHz	4nS max	3.3V	5nS max	1.8V
10.0~19.9 MHz	4nS max		5nS max	
20.0~31.9 MHz	3nS max		4nS max	
32.0~50 MHz	3nS max		4nS max	

● standard ○ available

### ★ DIMENSIONS & LAND PATTERN LAYOUT (Unit: mm) 外形尺寸



### ★ PART NUMBER GUIDE 部件号示例 e.g. HXO12.000M3.3SM2A-50D (\*SM2A=2.0×1.6 SMD TYPE)

Logo	Quartz Crystal Oscillator 石英晶体振荡器	Frequency 频率 Hz	Supply voltage 工作电压 V	Package 盒型	Frequency Stability 频率稳定度 ppm	Operating Temp. Range 工作温度
H	XO	12.000M	3.3	SM2A	50	D

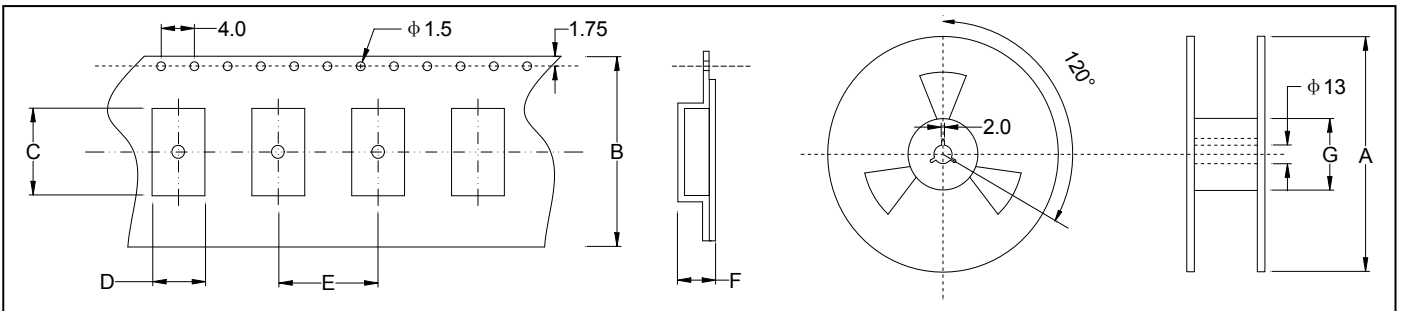


Definition	Description
Operating Temperature Range	<b>A:</b> -10~+60℃
	<b>B:</b> -20~+70℃
	<b>C:</b> -30~+85℃
	<b>D:</b> -40~+85℃
	<b>E:</b> Customer specified

★ INPUT CURRENT 工作电流

Vdc=3.3V		Vdc=2.5V		Vdc=1.8V	
1.5 ~ 9.9 MHz	7 mA	1.5 ~ 9.9 MHz	6 mA	1.5 ~ 9.9 MHz	4 mA
10.0 ~ 19.9 MHz	7 mA	10.0 ~ 19.9 MHz	6 mA	10.0 ~ 19.9 MHz	4 mA
20.0 ~ 31.9 MHz	10 mA	20.0 ~ 31.9 MHz	8 mA	20.0 ~ 31.9 MHz	5 mA
32.0 ~ 50.0 MHz	15 mA	32.0 ~ 50.0 MHz	10 mA	32.0 ~ 50.0 MHz	7 mA

★ TAPING SPECIFICATION (Unit: mm) 编带规格



	A	B	C	D	E	F	G
OSC-SMD2016	180±2.0	8.0±0.3	2.25±0.10	1.85±0.10	4.0±0.1	0.95±0.1	60.5±1.0
3000 pcs per reel							

★ REFLOW SOLDERING PROFILE 回流焊特性

