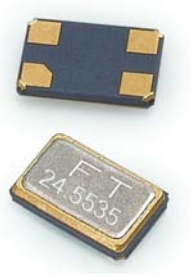
FRONTER ELECTRONICS CO., LTD.
深 圳 市 福 浪 电 子 有 限 公 司

SMD QUARTZ CRYSTAL RESONATOR 石 英 晶 体 谐 振 器



4 Pad Version 6.0×3.5 mm

- ±10 ppm type available
- Excellent Reliability Performance
- EMI shielding possible by grounded lid
- Reflow soldering temperature: 260℃ max
- Ceramic Seam Weld package

RoHS 2002/95/EC
RoHS compliant

★ PARAMETERS 技术参数

PARAMETERS	参数	SPECIFICATION 规格
Frequency Range	频率范围	7.3～50MHz
Operation Mode	振动模式	Fundamental
Loading Capacitance	负载电容	12pF Std. 8 to 32pF Series available
Drive Level	激励电平	10μW（500μW Max）
Frequency Tolerance	频率偏差	±10ppm～±30ppm（at 25℃）
Equivalent Resistance	谐振电阻	60Ω Max
Frequency Stability	频率稳定性	±10ppm～±50ppm
Operating Temp. Range:	工作温度范围	-10～+60℃ to -40～+85℃
Storage Temp. Range:	储存温度范围	-55～+125℃

⊙ *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

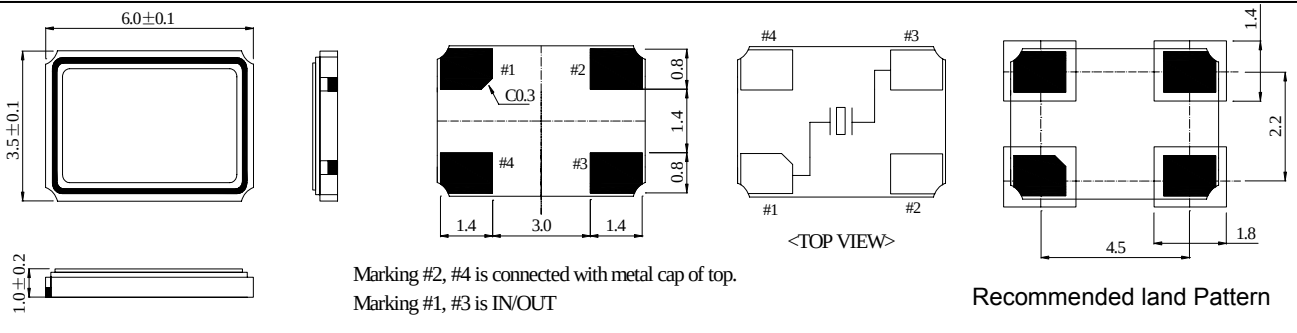
Operation Temperature Range	Frequency Stability				
	±10ppm	±15ppm	±20ppm	±30ppm	±50ppm
-10℃~+60℃	●	○	○	○	○
-20℃~+70℃	○	○	●	○	○
-40℃~+85℃		○	○	●	○

● standard ○ available

★ ESR（SERIES RESISTANCE RS）

Frequency	Vibration Mode	ESR
7.3-11.999MHz	AT CUT/FUND.	60Ω(MAX)
12-15.999MHz	AT CUT/FUND.	50Ω(MAX)
16-24.999MHz	AT CUT/FUND.	40Ω(MAX)
25-50.000MHz	AT CUT/FUND.	30Ω(MAX)

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



Marking #2, #4 is connected with metal cap of top.
Marking #1, #3 is IN/OUT

Recommended land Pattern

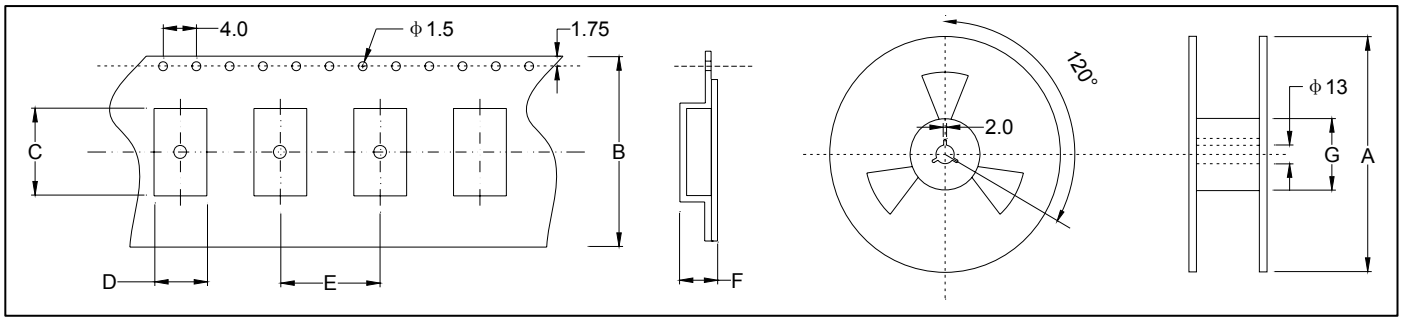
★ PART NUMBER GUIDE 部件号示例 *e.g. FTX12.000M18SM6S-20/20B (*SM6S=6.0×3.5 SMD SEAM TYPE)*

Logo	Quartz Crystal Resonator 石英晶体谐振器	Frequency 频率 Hz	Load Capacitance 负载电容 pF	Package 盒型	Frequency Tolerance 常温频差 ppm	Frequency Stability 温度频差 ppm	Operating Temp. Range 工作温度
FT	X	12.000M	18	SM6S	20	20	B

Address:Rm 1112-1117., Xinian Center. NO. 6021, Shennan Rd. Shenzhen Gaungdong 518040, China Tel:(86)755-83458718 Fax: (86)755-83459818 E-mial: sales@chinafronter.com

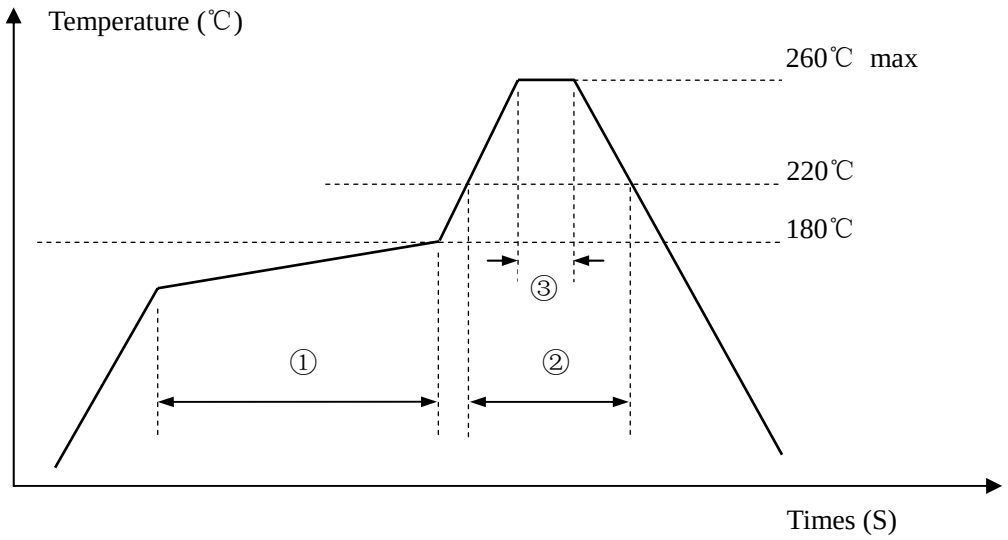
Definition	Description
Operating Temperature Range	**A**：-10~+60℃
	B：-20~+70℃
	C：-30~+80℃
	D：-40~+85℃
	E：Customer specified

★ TAPING SPECIFICATION (Unit: mm) 编带规格



	A	B	C	D	E	F	G
SMD6035	178±2.0	16.0±0.3	6.40±0.10	3.90±0.10	8.0±0.1	1.5±0.1	60.5±1.0
1000 pcs per reel							

★ REFLOW SOLDERING PROFILE 回流焊特性



Pb free reflow A	①	Preheat	160~180℃	120sec. max
	②	Primary heat	220℃	60sec. max
	③	Peak	260℃	10sec. max.