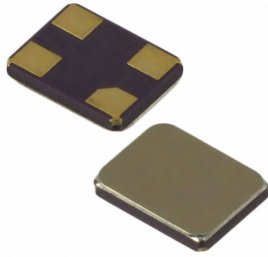


SMD QUARTZ CRYSTAL RESONATOR **石英晶体谐振器**



4 Pad Version 1.2x1.0 mm

- ±10 ppm type available
- Excellent Reliability Performance
- EMI shielding possible by grounded lid
- Reflow soldering temperature: 260°C max
- Ultra-small package



RoHS compliant

★ PARAMETERS 技术参数

| PARAMETERS | 参数 | SPECIFICATION 规格 |
|------------------------|--------|---------------------------------------|
| Frequency Range | 频率范围 | 26~52MHz |
| Operation Mode | 振动模式 | Fundamental |
| Loading Capacitance | 负载电容 | 9pF Std. 6 to 32pF / Series available |
| Drive Level | 激励电平 | 10 μ W (100 μ W Max) |
| Frequency Tolerance | 频率偏差 | ±10ppm~±30ppm (at 25°C) |
| Equivalent Resistance | 谐振电阻 | 100 Ω Max at 32MHz |
| Frequency Stability | 频率稳定性 | ±10ppm~±30ppm |
| 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 |

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

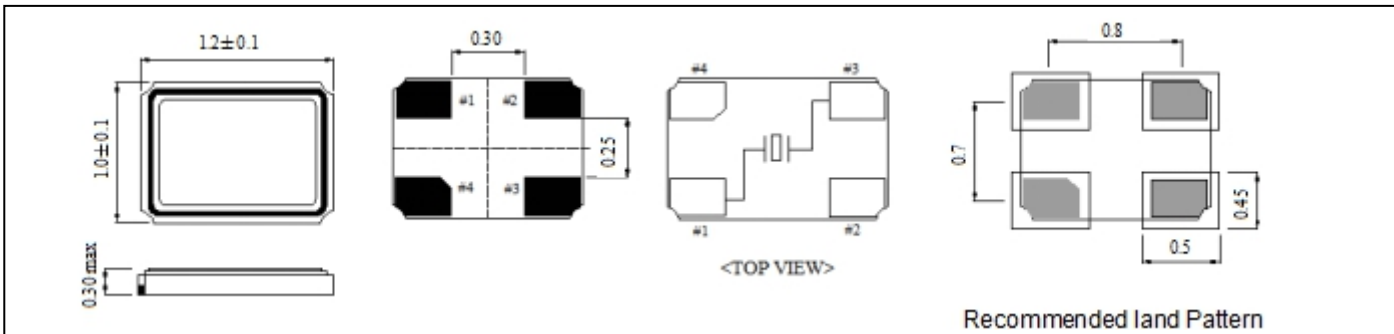
★ FREQUENCY STABILITY VS. TEMP. 频率温度特性 **★ ESR (SERIES RESISTANCE) 谐振电阻**

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

● standard ○ available

| Frequency | Vibration Mode | ESR |
|-------------|----------------|-----------|
| 26-31.99MHz | AT CUT/FUND. | 150Ω(MAX) |
| 32-39.99MHz | AT CUT/FUND. | 100Ω(MAX) |
| 40-52.00MHz | AT CUT/FUND. | 60Ω(MAX) |

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

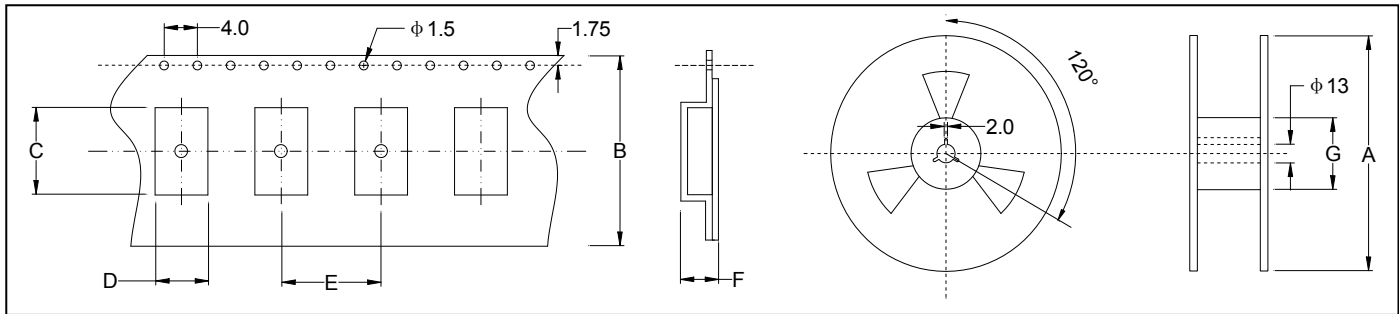


★ PART NUMBER GUIDE 部件号示例 e.g. FTX32.000M9SM1A-10/10B (*SM1A=1.2x1.0 SMD SEAM TYPE)

| 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 | 32.000M | 9 | SM1A | 10 | 10 | B |

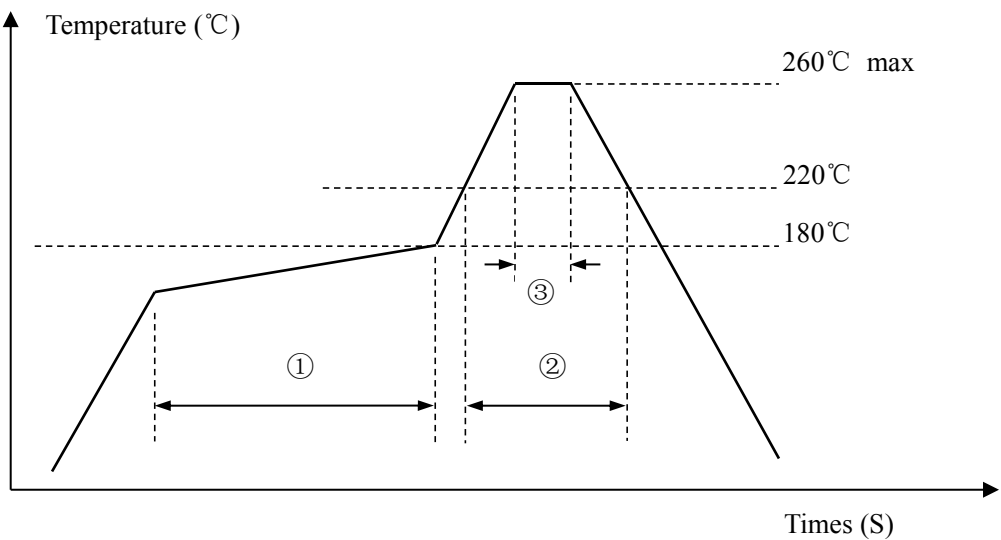
| Definition | Description |
|-----------------------------|-----------------------|
| Operating Temperature Range | A: -10~+60℃ |
| | B: -20~+70℃ |
| | C: -30~+80℃ |
| | D: -40~+85℃ |
| | E: Customer specified |

★ TAPING SPECIFICATION (Unit: mm) 编带规格



| | A | B | C | D | E | F | G |
|-------------------|---------|---------|----------|----------|---------|-----------|--------|
| SMD1210 | 178±2.0 | 8.0±0.3 | 1.5±0.05 | 1.3±0.05 | 4.0±0.1 | 0.45±0.05 | 60±1.0 |
| 3000 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. |