

SMD QUARTZ CRYSTAL RESONATOR
石英晶体谐振器

2 Pad SMD Crystal 11.5x4.8 mm HC-49SMD

- Package Height 4.2 mm max, 2.8~4.2 mm available
- Reflow soldering temperature: 260°C max
- highly stable and reliable crystal unit with a metallic package
- Taped Version Standard



RoHS compliant

★ PARAMETERS
技术参数

| PARAMETERS | 参数 | SPECIFICATION 规格 |
|------------------------|--------|---|
| Frequency Range | 频率范围 | 3.5 ~ 100MHz |
| Operation Mode | 振动模式 | (3.5 ~ 40MHz) Fundamental (27 ~ 100MHz) 3rd /5rd Overtone |
| Loading Capacitance | 负载电容 | 20pF Std. 8 to 33pF , Series available |
| Drive Level | 激励电平 | 10 μ W (300 μ W Max) |
| Frequency Tolerance | 频率偏差 | ±10ppm ~ ±30ppm (at 25°C) |
| Equivalent Resistance | 谐振电阻 | See Below |
| Frequency Stability | 频率稳定性 | ±2.5ppm ~ ±50ppm |
| Operating Temp. Range: | 工作温度范围 | 0 ~ +50°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. TEMPERATURE 频率温度特性

| Operation Temperature Range | Frequency Stability | | | | | |
|-----------------------------|---------------------|-------|--------|--------|--------|--------|
| | ±2.5ppm | ±5ppm | ±10ppm | ±20ppm | ±30ppm | ±50ppm |
| 0°C~+50°C | ○ | ○ | ○ | ● | ○ | ○ |
| -10°C~+60°C | | ○ | ○ | ● | ○ | ○ |
| -20°C~+70°C | | | ○ | ○ | ● | ○ |
| -40°C~+85°C | | | | ○ | ○ | ● |

● standard ○ available

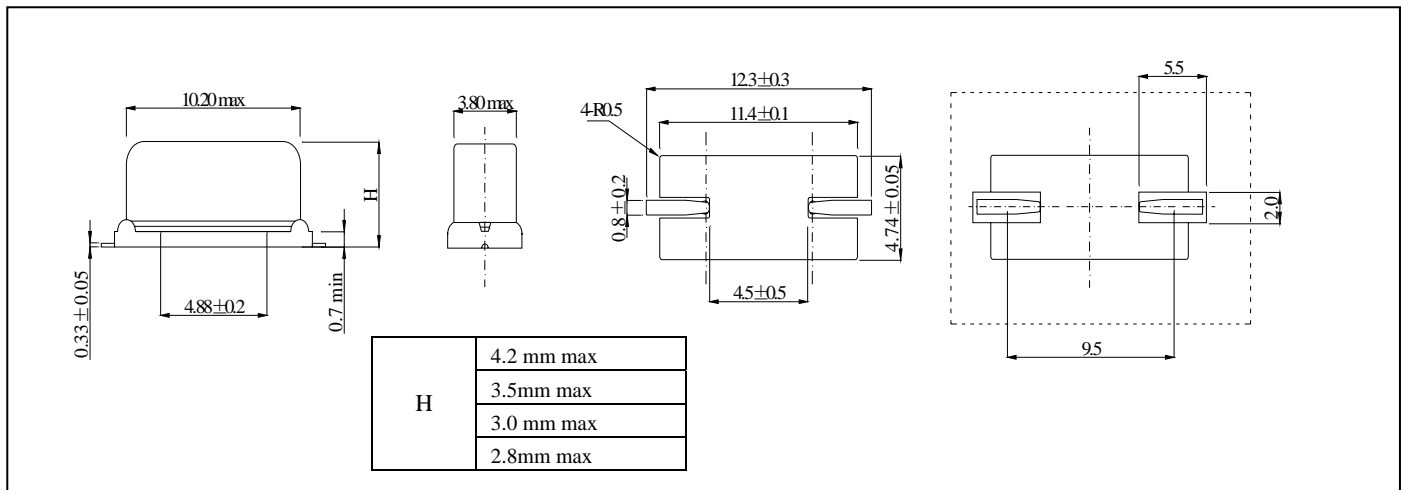
★ ESR (SERIES RESISTANCE RS)

| Frequency | Vibration Mode | ESR |
|------------------|----------------|-----------|
| 3.5-3.999MHz | AT CUT/FUND. | 150Ω(MAX) |
| 4.000-4.499MHz | AT CUT/FUND. | 120Ω(MAX) |
| 4.500-5.999MHz | AT CUT/FUND. | 100Ω(MAX) |
| 6.000-7.999MHz | AT CUT/FUND. | 80Ω(MAX) |
| 8.000-9.999MHz | AT CUT/FUND. | 60Ω(MAX) |
| 10.000-11.999MHz | AT CUT/FUND. | 50Ω(MAX) |
| 12.000-13.999MHz | AT CUT/FUND. | 40Ω(MAX) |
| 14.000-40.000MHz | AT CUT/FUND. | 30Ω(MAX) |
| 27.000-100MHz | AT 3rd /OT | 100Ω(MAX) |

★ PART NUMBER GUIDE 部件号示例 e.g. FTX16.000M20SM-30/30B (*SM=HC-49/SMD 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 | 16.000M | 20 | SM | 30 | 30 | B |

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

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

★ REFLOW SOLDERING PROFILE 回流焊特性
