

**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  
2002/95/EC

RoHS compliant

**★ PARAMETERS**
**技术参数**

PARAMETERS	参数	SPECIFICATION 规格
Frequency Range	频率范围	3.2~100MHz
Operation Mode	振动模式	(3.2~40MHz) 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

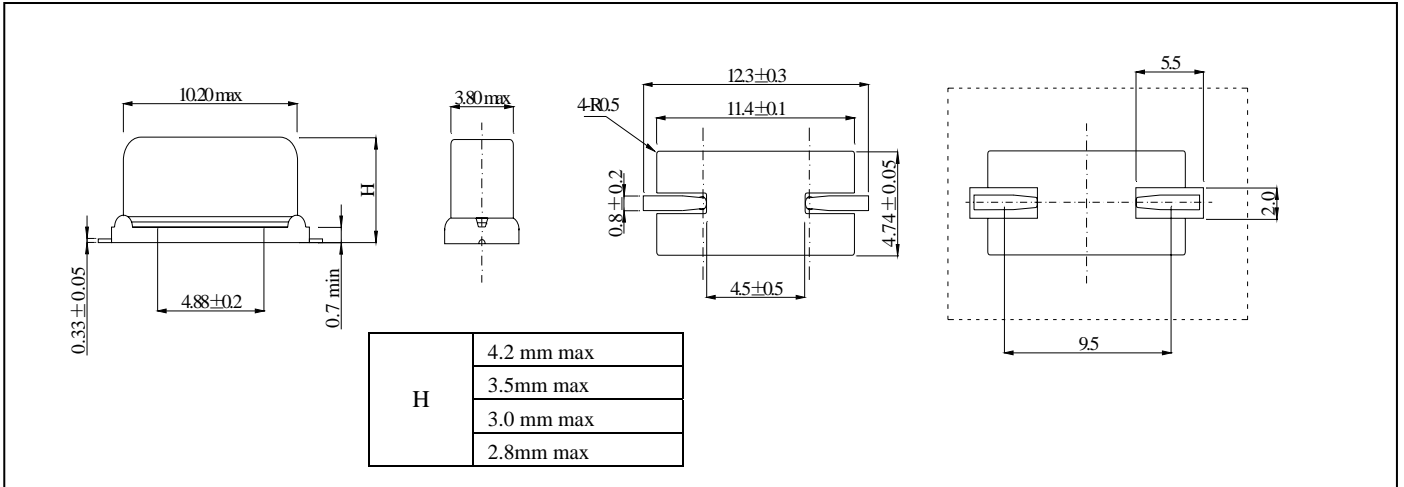
**★ ESR (SERIES RESISTANCE RS)**

Frequency	Vibration Mode	ESR
3.2-3.999MHz	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 (\*SM=HC-49SMD TYPE)

	Quartz Crystal Resonator 石英晶体谐振器	Frequency 频率	Load Capacitance 负载电容	Package 盒型
FT	X	16.000M	20	SM

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



★ REFLOW SOLDERING PROFILE 回流焊特性

