

SMD QUARTZ CRYSTAL RESONATOR

2 Pad SMD Crystal 11.5×4.8 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

PARAMETERS	SPECIFICATION
Frequency Range	3.5 ~ 100MHz
Operation Mode	(3.5 ~ 40MHz) Fundamental (27 ~ 100MHz) 3rd /5rd Overtone
Loading Capacitance	20pF Std. 8 to 33pF, Series available
Drive Level	100 μ W (500 μ W Max)
Frequency Tolerance	±10ppm ~ ±30ppm (at 25°C)
Equivalent Resistance	See Below
Frequency Stability	±2.5ppm ~ ±50ppm
Operating Temp. Range:	0 ~ +50°C to -40 ~ +125°C
Storage Temp. Range:	-55 ~ +125°C

○ All specification subject change without notice.

★ FREQUENCY STABILITY VS. TEMPERATURE

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)

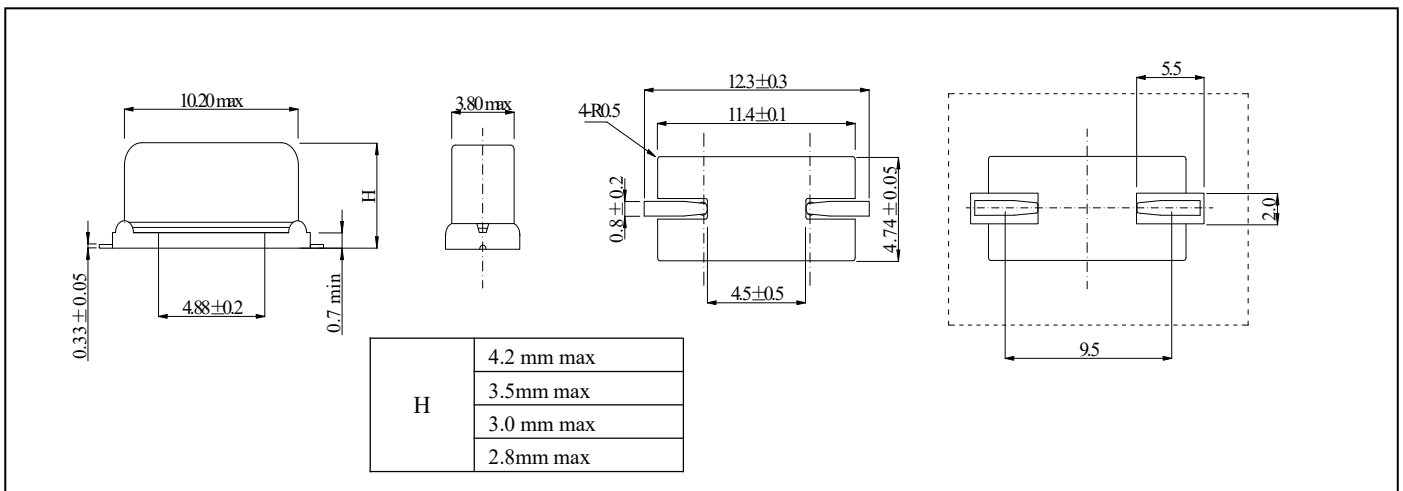
Frequency	Vibration Mode	ESR
3.5-3.999MHz	AT CUT/FUND.	150Ω Max.
4.000-4.499MHz	AT CUT/FUND.	120Ω Max.
4.500-5.999MHz	AT CUT/FUND.	100Ω Max.
6.000-7.999MHz	AT CUT/FUND.	80Ω Max.
8.000-9.999MHz	AT CUT/FUND.	60Ω Max.
10.000-11.999MHz	AT CUT/FUND.	50Ω Max.
12.000-13.999MHz	AT CUT/FUND.	40Ω Max.
14.000-40.000MHz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

★ PART NUMBER GUIDE *e.g. FTX16.000M20SM-30/30B (*SM=HC-49/SMD TYPE)*

Logo	Quartz Crystal Resonator	Frequency Hz	Load Capacitance pF	Package	Frequency Tolerance ppm	Frequency Stability ppm	Operating Temp. Range
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: -30~+105°C	F: -40~+105°C
	G: -40~+125°C	S: Customer specified

★ DIMENSIONS & LAND PATTERN LAYOUT (Unit: mm)



★ REFLOW SOLDERING PROFILE

