

SMD QUARTZ CRYSTAL RESONATOR



4 Pad Version 12.5×4.6 mm

- Plastic Encapsulated
- ± 10 ppm available
- Temperatures to $-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$
- Reflow soldering temperature: 260°C max
- Tape and Reel (1,000 pcs STD)



RoHS compliant

★ PARAMETERS

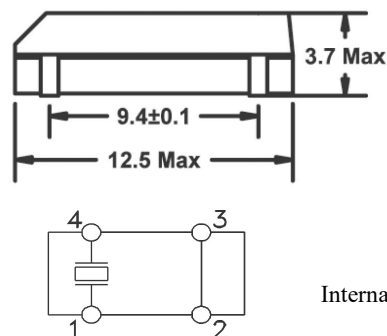
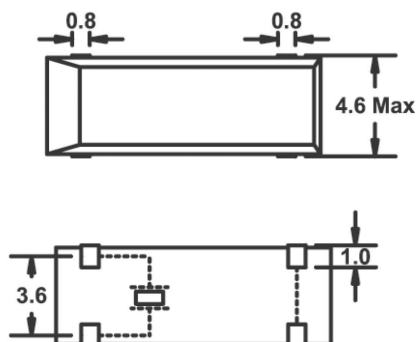
PARAMETERS	SPECIFICATION
Frequency Range	3.579~27.000MHz
Loading Capacitance	20pF Std. 8 to 33pF Series available
Drive Level	100 μ W Max
Frequency Tolerance	$\pm 10\text{ppm} \sim \pm 50\text{ppm}$ (at 25°C)
Frequency Stability	$\pm 20\text{ppm} \sim \pm 50\text{ppm}$
Equivalent Resistance	50 $\Omega \sim 200 \Omega$
Operating Temp. Range:	$-10 \sim +60^{\circ}\text{C}$ to $-40 \sim +85^{\circ}\text{C}$
Storage Temp. Range:	$-55 \sim +125^{\circ}\text{C}$
Aging (25°C , First Year)	$\pm 5\text{ppm}$ max

○ All specification subject change without notice.

★ ESR (SERIES RESISTANCE RS)

Frequency (MHz)	$3.579 \leq f < 4.000$	$4.000 \leq f < 6.000$	$6.000 \leq f < 10.000$	$10.000 \leq f < 27.000$
Equivalent Resistance (MHz)	200 Ω (MAX)	150 Ω (MAX)	100 Ω (MAX)	50 Ω (MAX)

★ DIMENSIONS& LAND PATTERN LAYOUT (Unit: mm)



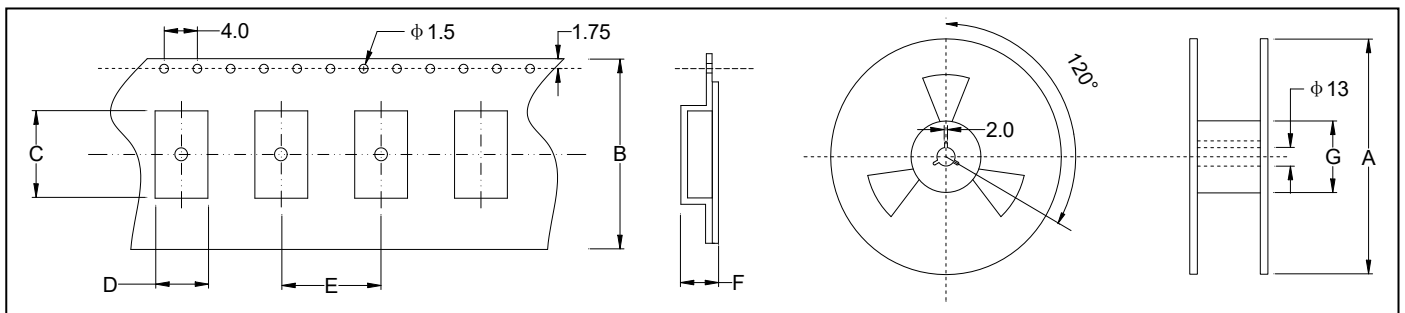
Internal connection

★ PART NUMBER GUIDE e.g. FTX16.000M20SM12-30/50D (*S=HC49/S 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	SM12	30	50	D

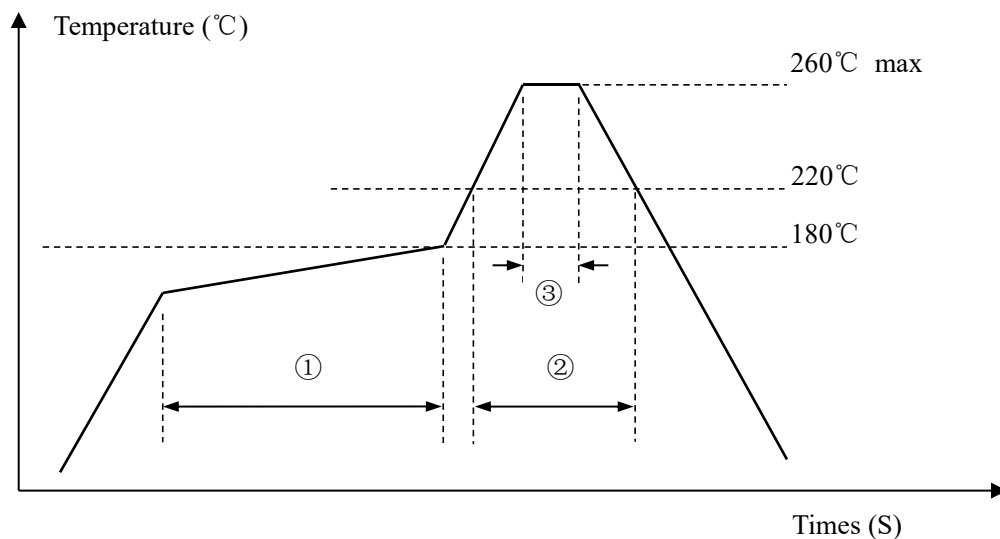
Definition	Description
Operating Temperature Range	A: -10~+60℃
	B: -20~+70℃
	C: -30~+80℃
	D: -40~+85℃
	E: Customer specified

★ TAPING SPECIFICATION (Unit: mm)



	A	B	C	D	E	F	G
SMD12.5×4.6	330	24.0±0.3	12.8	5.8	12.0	4.3	100
1000 pcs per reel							

★ REFLOW SOLDERING PROFILE



Pb free reflow A	①	Preheat	160~180℃	100sec. max
	②	Primary heat	220℃	35sec. max
	③	Peak	260℃	10sec. max