

## SMD QUARTZ CRYSTAL RESONATOR



### 4 Pad Version 10.4×4.1 mm

- Tuning fork crystal in standard package
- 32.768 KHz standard
- ±10 ppm available
- Excellent Reliability Performance
- Reflow soldering temperature: 260°C max



RoHS compliant

### ★ PARAMETERS

PARAMETERS	SPECIFICATION 规格
Frequency Range	32.768KHz standard, 20.000~165.000KHz
Loading Capacitance	12.5pF Std. 6 to 20pF Series available
Drive Level	1.0 μ W Max
Frequency Tolerance	±10ppm ~ ±30ppm (at 25°C)
Equivalent Resistance	50KΩ Max
Temperature coefficient	-0.04×10 <sup>-6</sup> /°C <sup>2</sup> Max
Operating Temp. Range:	-20 ~ +70°C / -40 ~ +85°C
Storage Temp. Range:	-40 ~ +85°C
Aging (25°C, First Year)	±3ppm Max

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

### ★ FREQUENCY STABILITY VS. TEMP.

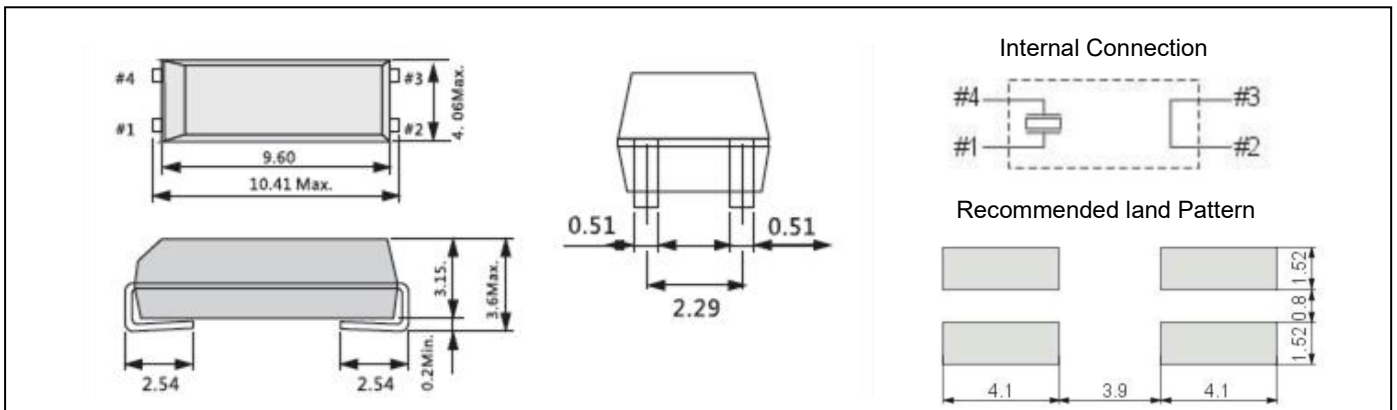
Operation Temperature Range	Frequency Stability	
	-80ppm	-160ppm
-20°C~+70°C	●	
-40°C~+85°C		●

● standard ○ available

### ★ ESR (SERIES RESISTANCE RS)

Frequency	20-30KHz	30-40KHz	40-70KHz	70-165KHz
ESR	50KΩ Max	45KΩ Max	20KΩ Max	12KΩ Max

### ★ DIMENSIONS & LAND PATTERN LAYOUT (Unit: mm)



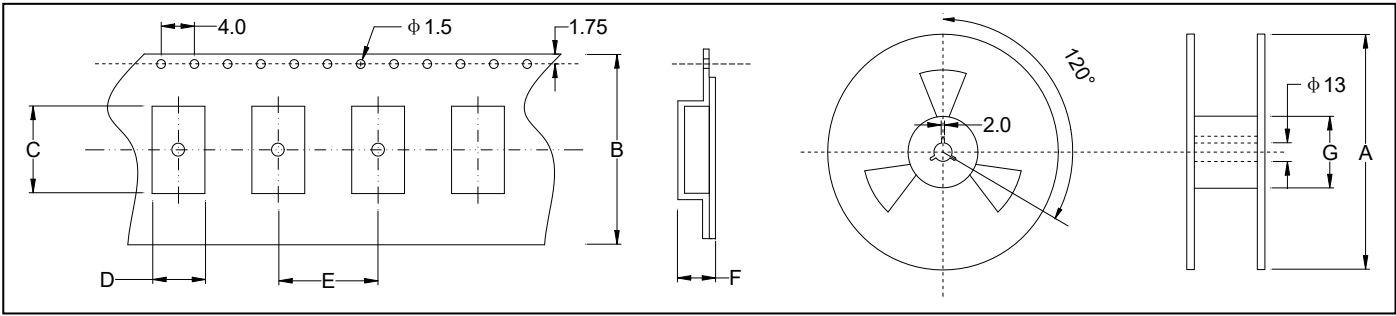
### ★ PART NUMBER GUIDE

e.g. FTX32.768K12.5SM10B-20D (\*SM10B=10.4×4.1 406Type)

	Quartz Crystal Resonator	Frequency Hz	Load Capacitance pF	Package	Frequency Tolerance ppm	Operating Temp. Range
FT	X	32.768KHz	12.5	SM10B	20	D

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

★ TAPING SPECIFICATION (Unit: mm)



	A	B	C	D	E	F	G
SMD10.4×4.1	330±2.0	24.0±0.3	12.8±0.2	4.8±0.2	12.0	3.9±0.1	100±1.0
2000 pcs per reel							

★ REFLOW SOLDERING PROFILE

