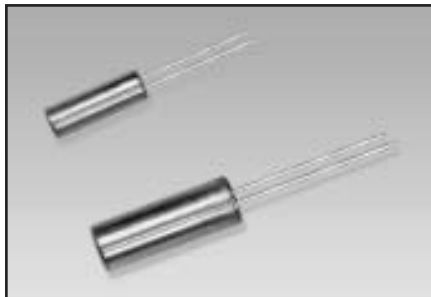


# TUNING FORK QUARTZ CRYSTAL

## • TC-26 & NC-38 Series



The tuning fork type quartz crystal provides ultimate in size, performance, and economic trade-offs. So it is used as a clock source in communication equipment, measuring instrument, microprocessor and other time management application.

### FEATURES

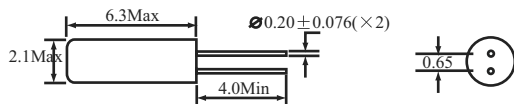
- Miniature Package
- Low Cost
- KHz Frequency
- Tight Tolerance

## Electrical Specifications

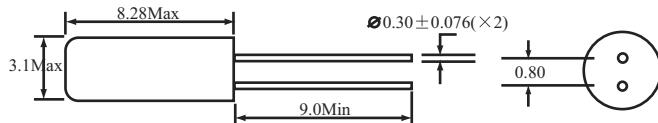
Parameter	Symb	Condition	Min	Typ	Max	Units
Frequency Range	F <sub>0</sub>		30	32.768	100	KHz
Frequency Tolerance	ΔF/ F <sub>0</sub>	AT 25°C	±10	±20	±100	ppm
Temperature Coefficient	K	REF TO 25°C			-0.042	ppm/(Δ°C) <sup>2</sup>
Operating Temperature Range	T <sub>OPR</sub>		-10		+60	°C
Storage Temperature Range	T <sub>STG</sub>		-20		+70	°C
Shunt Capacitance	C <sub>0</sub>			0.85	2	pF
Motional Capacitance	C <sub>1</sub>		1	2	4	fF
Load Capacitance	CL		6	12.5	Series	pF
Insulation Resistance	IR	100V <sub>DC</sub>	500			MΩ
Drive Level	DL				1	μW
Aging(First year)	F <sub>a</sub>	AT 25°C ±3°C	-5.0		+5.0	ppm
Equivalent Series Resistance(ESR)	R <sub>s</sub>	DT-38			35	KΩ
		DT-26			50	KΩ

## Mechanical Dimensions(mm)

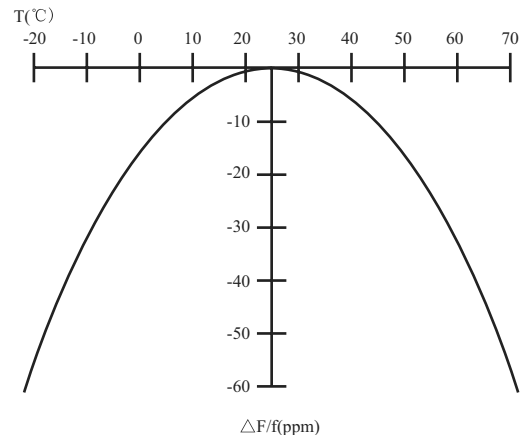
### TC-26



### NC-38



### Parabolic Temperature Curve



To determine frequency stability, use parabolic curvature(k).  
For example: What is stability at 45°C

- 1).change in T(°C)=45-25=20°C
- 2).Change in frequency = -0.042ppm\*(Δ°C)<sup>2</sup>  
= -0.042ppm\*(20)<sup>2</sup>  
= -16.8ppm(max)