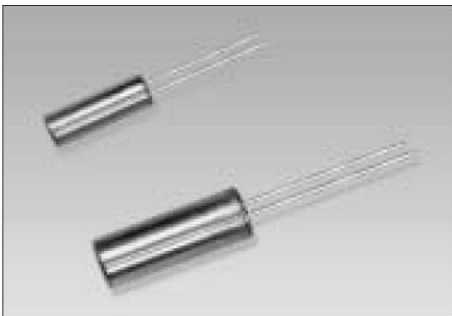


# TUNING FORK QUARTZ CRYSTAL



## • DT-26 & DT-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

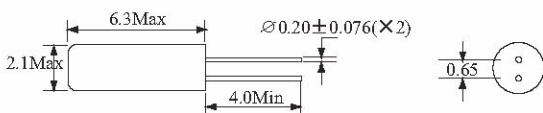
- Miniature Package
- Low Cost
- KHz Frequency
- Tight Tolerance

## Electrical Specifications

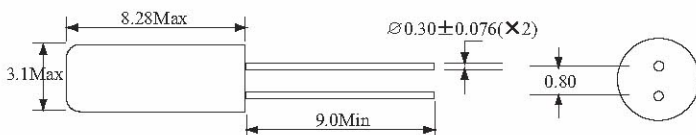
Parameter	Symb	Condition	Min	Typ	Max	Units
Frequency Range	F <sub>0</sub>		30	32.768	100	KHz
Frequency Tolerance	$\Delta F / F_0$	AT 25°C	±10	±20	±100	ppm
Temperature Coefficient	K	REF TO 25°C			-0.042	ppm/(Δ°C) <sup>2</sup>
Operating Temperature Range	T <sub>OPR</sub>		-10		+60	°C
Storage Temperature 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	C <sub>L</sub>		6	12.5	Series	pF
Insulation Resistance	I <sub>R</sub>	100VDC	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)

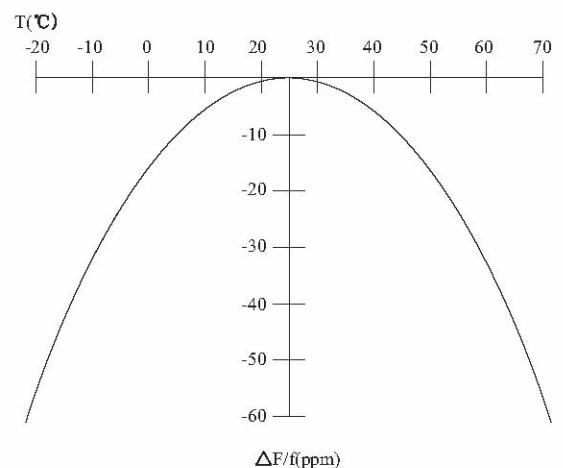
### DT-26



### DT-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  $-0.042\text{ppm} * (\Delta^\circ\text{C})^2$   
 $-0.042\text{ppm} * (20)^2$   
 $-16.8\text{ppm}(\text{max})$