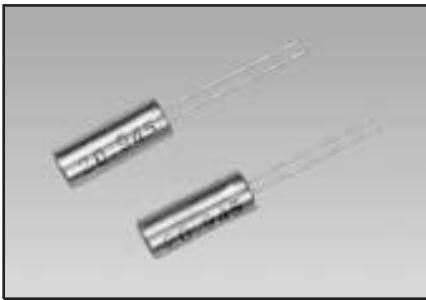


HIGH FREQUENCY MINIATURE CRYSTAL UNITS

• TB-39 Series



The AT-39 crystal is the miniature cylinder high frequency AT Cut crystal. In term of volume, it has the smallest footprint of any crystal package.

FEATURES

- Low Cost
- Industry Standard
- Wide Frequency Range
- Small Compact Size

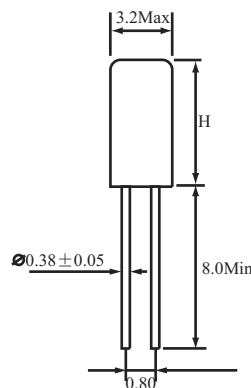
Electrical Specifications

Parameter	Symb	Condition	Min	Typ	Max	Units
Frequency Range	F ₀		3.579545		70	MHz
Frequency Tolerance	ΔF/ F ₀	AT 25°C	±20	±30	±50	ppm
Temperature Stability	TC	REF TO 25°C	±20	±30	±50	ppm
Operating Temperature Range	T _{OPR}		-10		+60	°C
Storage Temperature Range	T _{STG}		-40		+85	°C
Shunt Capacitance	C ₀				7	pF
Load Capacitance	CL	Customer Specified	10	16	Series	pF
Insulator Resistance	IR	100V _{DC}	500			M Ω
Drive Level	DL			100	500	μW
Aging(First year)	F _a	AT 25°C	-5.0		+5.0	ppm

Equivalent Series Resistance(ESR) and Mode of Vibration(Mode)

Frequency Range(MHz)	Max ESR(Ω)	Mode	Frequency Range(MHz)	Max ESR(Ω)	Mode
3.579545 to 3.999	200	Fundamental	9.000 to 12.999	60	Fundamental
4.000 to 4.999	150	Fundamental	13.000 to 15.999	50	Fundamental
5.000 to 5.999	120	Fundamental	16.000 to 19.999	40	Fundamental
6.000 to 6.999	100	Fundamental	20.000 to 29.999	30	Fundamental
7.000 to 8.999	80	Fundamental	30.000 to 70.000	100	3 rd Overtone

Mechanical Dimensions(mm)



Frequency ≤ 4MHz H: 10.5Max
 Frequency > 4MHz H: 9.0Max