

# TB39 THRU-HOLE CRYSTAL

## FEATURES

- Low cost
- Wide Frequency Range
- Applications: Consumer Electronics, Microprocessor clocks,...

3.0 x 9.0 mm Cylindrical



Item	Symbol	Specification
Frequency Range	Fo	3.5 MHz ~ 70.0 MHz
Operation Mode		3.5 MHz ~ 32.0 MHz Fundamental (see options) 30.0 MHz ~ 70.0 MHz 3rd-overtone (see options)
Operating temperature Range	To	0° to +70°C (see options)
Frequency Tolerance at 25°C	Δf/F	± 30ppm max. (see options)
Temperature Stability	Δf/F	± 50ppm max. (see options)
Load Capacitance (CL)	CL	series or 10 pF to 60 pF (see options)
Equivalent Series Resistance	ESR	See Table 1
Shunt Capacitance (Co)	Co	7pF Max
Insulation Resistance	Ri	500 MΩ min. (at 100Vdc)
Drive Level	DL	300 μW max.
Aging	Δf/F	±5ppm max (at 25°C, first year)
Packing Unit		Bulk in bag
		<b>Customer specifications on request</b>

## TABLE 1: Standard ESR

Frequency (MHz)	ESR (Ω) max.	Frequency (MHz)	ESR (Ω) max.
3.5 - 5.99	150	30.0 - 35.9, 3rd overtone	100
6.0 - 9.9	100	36.0 - 70.0, 3rd overtone	80
10.0 - 32.0	50		

## OPTIONS & ORDERING INFORMATION

TB39-	.....	.....	.....	.....	..... MHz	- .....	
	Freq. Tolerance	Freq. Stability*	Operating Temp.*	Load Capacitance	Mode	Frequency in MHz	ESR if other than STD
	20 = ±20 ppm	20 = ±20 ppm	D = -10° / +60°C	Please specify CL in	F = Fundamental	Please specify the	Specify a value in Ω
	25 = ±25 ppm	25 = ±25 ppm	E = 0° / +70°C	pF or S for Series	D = 3rd overtone	frequency in MHz	
	30 = ±30 ppm	30 = ±30 ppm	F = -20° / +70°C				
	50 = ±50 ppm	50 = ±50 ppm	G = -30° / +75°C				
			H = -30° / +85°C				
			K = -40° / +85°C				

\* Note: Not all combinations are possible, please consult us.

## OUTLINE DIMENSIONS

