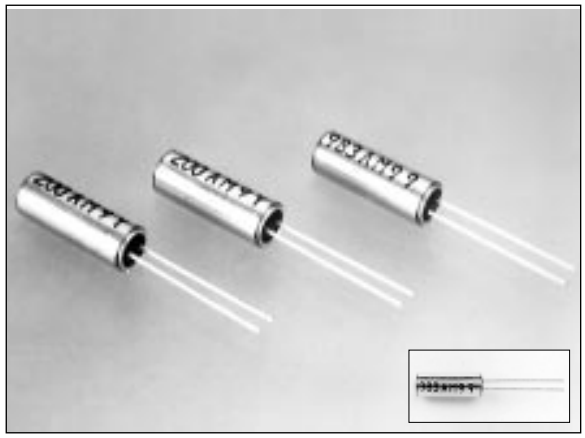
CYLINDER TYPE HIGH FREQUENCY QUARTZ CRYSTAL

CA-301

- Compact design with as small as 3mm diameter case but maintaining excellent characteristics of AT cut.
- Excellent shock resistance.
- High stability assured with tight vacuum sealing.
- Capable of covering a frequency range from 4MHz to 64MHz.



Actual size

■Specifications (Characteristics)

Item		Symbol	Specifications	Remarks
Nominal frequency range		f	4.000MHz to 30.000MHz ※1	Fundamental mode
			26.001MHz to 64.000MHz	3rd overtone mode
Temperature range	Storage temperature	T_{STG}	-40˚C to +85˚C	The operating temperature range is -10˚C to 60˚ for 5.5MHz below.
	Operating temperature	T_{OPR}	-20˚C to +70˚C	
Drive level	Maximum drive level	GL	2mW MAX.	Only crystal oscillation is guaranteed
	Recommended level	DL	10μW to 100μW	
Soldering condition (only lead part)		T_{SOL}	Under 260˚C within 10 sec.	Do not heat up the package more than 150˚C
Frequency tolerance (standard)		△f/f	±30ppm	Ta=25˚C
Frequency temperature characteristics (standard)			Under 5.5MHz : ±50ppm	-10˚C to +60˚C
			Over 5.5MHz : ±30ppm	-20˚C to 70˚C
Load capacitance		CL	Fundamental : 10pF to ∞. Over tone : 5pF to ∞	Please specify
Series resistance		R_1	As per below table	-20˚C to +70˚C, DL=100μW
Shunt capacitance		C_0	5pF MAX.	
Insulation resistance		IR	500MΩ MIN.	
Aging		fa	±5ppm/year MAX.	Ta=25˚C±3˚C, first year
Shock resistance		S.R.	±10ppm MAX.	Drop test of 3times on a hard board from 75cm height or excitation test with 3000G × 0.3ms × 1/2 sine wave × 3 directions

※1 8.0MHz＜f＜8.2MHz:Unavailable.

■Series resistance

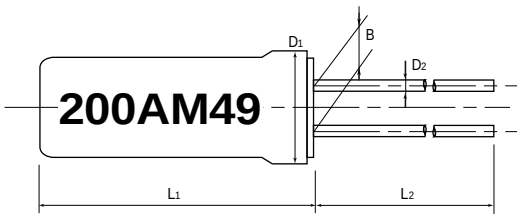
Frequency (MHz)	Series resistance (Ω)	mode
4.0≦f＜ 5.5	150Ω MAX.	Fundamental
5.5≦f＜ 6.0	100Ω MAX.	
6.0≦f＜10.0	80Ω MAX.	
10.0≦f＜12.0	60Ω MAX.	
12.0≦f＜16.0	50Ω MAX.	
16.0≦f＜30.0	40Ω MAX.	
26.0≦f＜36.0	100Ω MAX.	3rd overtone
36.0≦f≦64.0	80Ω MAX.	

■Available frequencies from 4.0 to 5.5MHz

Frequency (MHz)	
4.000MHz	4.433619MHz
4.032MHz	4.500MHz
4.096MHz	4.800MHz
4.190MHz	4.842673MHz
4.194304MHz	4.9152MHz

■External Dimensions

(Unit : mm)



Model		L1	L2	D1	D2	B
CA-301	Under 5.5MHz	10.3MAX.	9.5 MIN.	ø3.1 MAX.	ø0.3	1.1
	Over 5.5MHz	8.9MAX	9.5 MIN.	ø3.1 MAX	ø0.3	1.1

Sample products are without marking.