

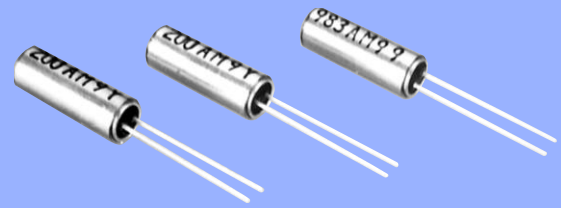
MHz RANGE CRYSTAL UNIT



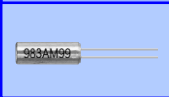
Product Number (please contact us)  
Q21CA3011xxxx00

CA-301

- Frequency range : 4 MHz to 64 MHz
- Thickness :  $\phi 3.1$  mm Max.
- Overtone order : Fundamental  
3rd overtone (30 MHz to 64 MHz)
- Applications : For Clock of integrated circuit



Actual size



Specifications (characteristics)

Item	Symbol	Specifications	Conditions / Remarks
Nominal frequency range	f <sub>nom</sub>	4.000 MHz to 29.999 MHz	Fundamental *1
		30.000 MHz to 64.000 MHz	3rd overtone *2
Storage temperature	T <sub>stg</sub>	-40 °C to +85 °C	Storage as single product.
Operating temperature	T <sub>use</sub>	-20 °C to +70 °C	The operating temperature range is -10 °C to +60 °C for 5.5 MHz and below
Level of drive	DL	10 $\mu$ W to 100 $\mu$ W	
Frequency tolerance (standard)	f <sub>tol</sub>	$\pm 30 \times 10^{-6}$ (Under 5.5 MHz: $\pm 50 \times 10^{-6}$ , $\pm 100 \times 10^{-6}$ )	+25 °C
Frequency versus temperature characteristics (standard)	f <sub>tem</sub>	Under 5.5 MHz: $\pm 50 \times 10^{-6}$	-10 °C to +60 °C
		Over 5.5 MHz: $\pm 30 \times 10^{-6}$	-20 °C to +70 °C
Load capacitance	CL	Fundamental: 10 pF to $\infty$ .	Please specify
		Overtone: 5 pF to $\infty$	
Motional resistance (ESR)	R <sub>1</sub>	As per table below	-20 °C to +70 °C, DL=100 $\mu$ W
Frequency aging	f <sub>age</sub>	$\pm 5 \times 10^{-6}$ / year Max.	+25 °C, First year

\*1 4.0 MHz  $\leq$  f<sub>nom</sub> < 5.5 MHz : See "Available frequencies from 4.0 MHz to less than 5.5 MHz". 8.0 MHz < f<sub>nom</sub> < 8.2 MHz: Unavailable.  
\*2 26.000 MHz  $\leq$  f<sub>nom</sub> < 30.000 MHz : please contact us for inquiries for 3rd overtone mode.

Available frequencies from 4.0 MHz to less than 5.5 MHz (MHz)

4.000	4.032	4.096	4.190	4.194304	4.433619	4.500	4.800	4.9152
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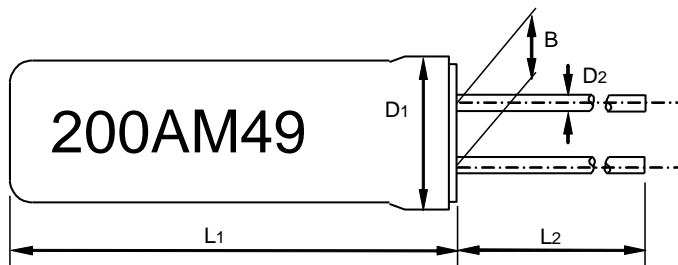
Motional resistance (ESR)

Frequency (MHz)	4 $\leq$ f <sub>nom</sub> < 5.5	5.5 $\leq$ f <sub>nom</sub> < 6	6 $\leq$ f <sub>nom</sub> < 10	10 $\leq$ f <sub>nom</sub> < 12	12 $\leq$ f <sub>nom</sub> < 16	16 $\leq$ f <sub>nom</sub> < 30	30 $\leq$ f <sub>nom</sub> $\leq$ 36	36 < f <sub>nom</sub> $\leq$ 64
Motional resistance	150 $\Omega$ Max.	100 $\Omega$ Max.	80 $\Omega$ Max.	60 $\Omega$ Max.	50 $\Omega$ Max.	40 $\Omega$ Max.	100 $\Omega$ Max.	80 $\Omega$ Max.
Overtone order	Fundamental						3rd overtone	

Product name CA-301 24.000000MHz 12.0 +10.0-10.0  
 (Standard form) ① ② ③ ④  
 ①Model ②Frequency ③Load capacitance(pF) ④Frequency tolerance( $\times 10^{-6}$ , +25 °C)

External dimensions

(Unit:mm)



Frequency	L1	L2	D1	D2	B
Under 5.5 MHz	9.3 Max.	9.5 Min.	$\phi 3.1$ Max.	$\phi 0.3$	1.1
Over 5.5 MHz	8.9 Max.	9.5 Min.	$\phi 3.1$ Max.	$\phi 0.3$	1.1