

SA Series 10.8 x 4.5 mm Crystal

Feature

- Low profile resistance weld type Thru Hole quartz crystal.
- High reliability & Low cost.
- Tight stability & extended temperature
- Pb-free and RoHS/Green compliant

Applications

- Consumer Electronics
- Home Devices
- Communication, Test equipment
- Portable Devices



Electrical Specifications

Item	Symb.	Min.	Typ.	Max.	Unit	Notes
Frequency Range	Freq.	3.200		48.000	MHz	
Oscillation Mode		Fundamental (AT-cut)				
Frequency Tolerance	$\Delta f/f$			± 10	ppm	at 25°C $\pm 2^\circ\text{C}$
Operating Temperature	T_use	-20		70	°C	
		-40		85	°C	
Storage Temperature Range	T_sta	-55		125	°C	
Shunt Capacitance	C0			7	pF	
Drive Level	DL		100	500	μW	
Load Capacitance	CL	8		20	pF	
Insulation Resistance	IR			500	M Ω	at DC 100V
Aging	f_age			3	ppm	1st. Year at 25°C

Frequency Stability & Operating Temperature Range

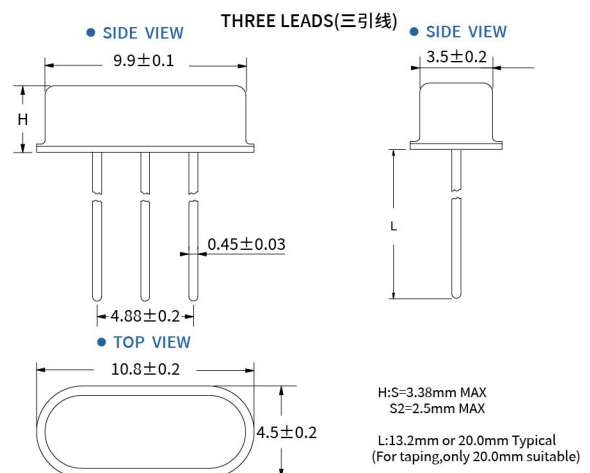
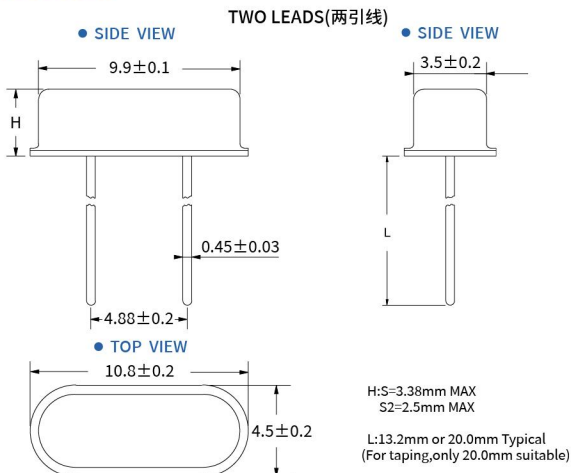
Temp.	FT	$\pm 10\text{ppm}$	$\pm 15\text{ppm}$	$\pm 20\text{ppm}$	$\pm 30\text{ppm}$
	-20°C to +70°C	Δ	\star	\star	\star
-40°C to +85°C		Δ	\star	\star	\star

\star : Available Δ : Conditional

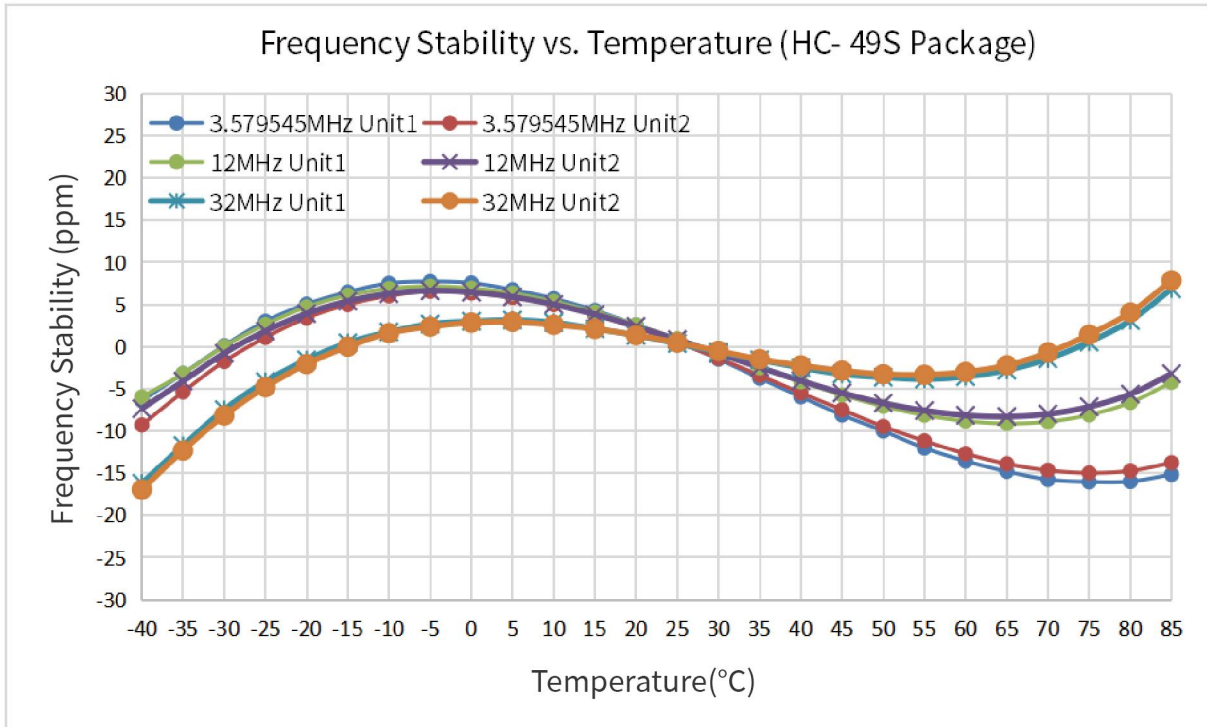
Equivalent Series Resistance

Frequency Range	ESR(Max.)
3.2MHz \leq Freq. < 3.579MHz	150 Ω
3.579 MHz \leq Freq. < 4MHz	120 Ω
4MHz \leq Freq. < 5MHz	100 Ω
5MHz \leq Freq. < 6MHz	80 Ω
6MHz \leq Freq. < 10MHz	60 Ω
10MHz \leq Freq. < 14MHz	35 Ω
14MHz \leq Freq. < 20MHz	30 Ω
20MHz \leq Freq. \leq 48MHz	25 Ω

Dimensions (UNIT:mm)



Frequency Temperature Characteristics



Product Structure & Marking Information

Product Structure



Marking Information



Packaging Information

T=Tape and reel (200pcs/reel)



T=Tape and reel (2,000pcs/reel)



Common Frequencies – MHz

SA Series				
3.579545	3.6864	4.000	4.096	4.194304
4.897	4.9152	5.000	5.5296	6.000
6.144	6.7458	7.3728	7.680	8.000
8.192	9.81563	9.8304	9.84375	10.000
11.0592	11.2896	12.000	12.288	13.000
13.1072	13.225625	13.52127	13.52313	13.560
13.598	13.824	14.31818	14.7456	15.000
16.000	16.384	16.9344	17.734475	18.432
19.200	19.6608	20.000	22.1184	22.5792
24.000	24.576	25.000	26.000	27.000
27.120	27.1412	28.63636	29.4912	30.000
32.000	36.000	40.000		