

Quartz Crystal Series			
HC-49B/SMD (49B) HC-49BB/SMD (49BB)	Features		
	◆ RoHS Compliant	◆ Low profile type	

Electrical Specifications

Item	Specifications	Remarks
Nominal Frequency Range	3.000MHz to 48.000MHz	Fund.; AT-Cut
	24.000MHz to 110.000MHz	3 rd O.T.; AT-Cut
Frequency Tolerance	±20ppm(Standard) at 25°C±3°C	Others are offered
Load Capacitance	Fund.:10pF to ∞, O.T.:5pF to ∞	Please specify
Series Resistance	As ESR table	
Shunt Capacitance	7pF Max	
Drive Level	10μW to 100μW	1000μW Max
Operating Temperature	-20°C to +70°C (Standard)	Others are offered
Storage Temperature	-55°C to +125°C / -65°C to +135°C	
Stability vs. Temperature	±20ppm(Standard)	Others are offered
Insulated Resistance	500MΩ	Minimum at 100Vdc
Aging	±2ppm/year	Maximum

ESR(Series Resistance)

Frequency(MHz)	Mode	Ohm Max	Frequency(MHz)	Mode	Ohm Max
3.0~3.999	Fund.	180	10.0~19.999	Fund.	40
4.0~4.999	Fund.	100	20.0~48.0	Fund.	30
5.0~5.999	Fund.	90	24.0~79.999	3 rd O.T.	90
6.0~6.999	Fund.	70	80.0~110.0	3 rd O.T.	70
7.0~9.999	Fund.	60			

Stability vs. Temperature

◆ Standard		1	2	3	5	6	7	Remarks
◇ Please specify		±10ppm	±20ppm	±30ppm	±50ppm	±100ppm	±150ppm	
B	-10°C to +60°C	◇	◇	◇				
C	-20°C to +70°C	◇	◆	◇	◇	◇	◇	Standard
D	-40°C to +85°C	◇	◇	◇	◆	◇	◇	
E	-45°C to +125°C			◇	◇	◆	◇	

Ordering Information

Q	R	Type	Pin	XX.XXXX	M	Mode	CL pF	Freq.Tolerance at 25°C	Operating Temp.	Stability Vs. Temp.	Option
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Q:Quartz 49B Blank:2 Center frequency 3.0 to 110.0MHz M: MHz F:Fund.;AT O: 3rd O.T.;AT See Table ±10ppm to ±150ppm See Table See Table F:Lead Free Blank:T&R B:Bulk

Example:QR49B11.0592MFK2C2F (Crystal, HC-49B/SMD, 11.0592MHz, 2pins, 20pF, ±20ppm, -20 to +70deg, ±20ppm. Lead free, T&R)

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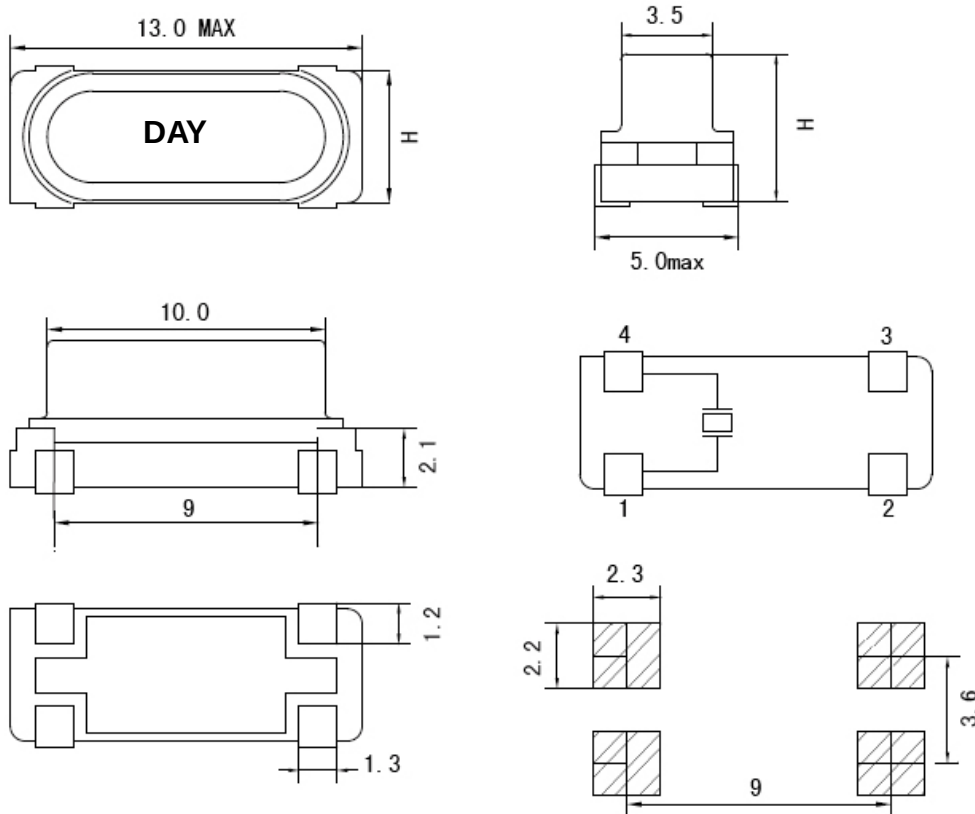
HC-49B/SMD (49B)

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Load Capacitance Codes

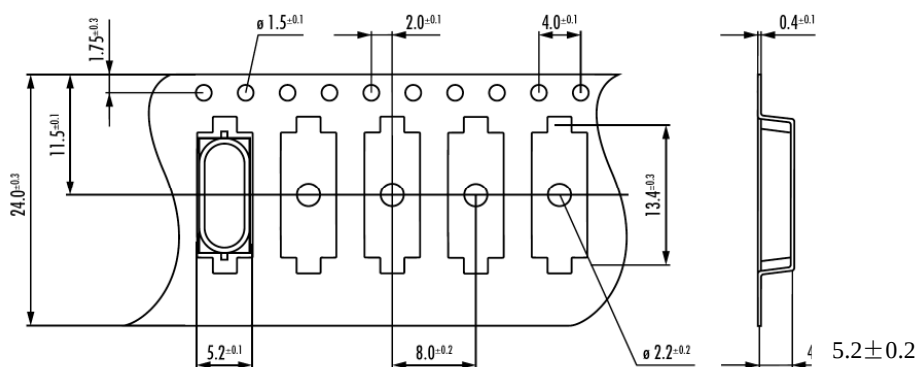
7pF:	E	8pF:	F	9pF:	B	10pF:	R
12pF:	T	15pF:	H	16pF:	I	18pF:	J
20pF:	K	22pF:	L	25pF:	G	27pF:	M
30pF:	N	32pF:	P	33pF:	W	Series:	S

Dimensions



Unit:mm

Taping Specification



1000pcs/Reel

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Reflow Soldering Profile

