

SHOULDER

QUARTZ CRYSTAL RESONATOR HC-49S-SMD

Electrical Specifications

Frequency Range	3.00 ~ 100.00 MHz
Load Capacitance	Series, 6~32 pF, or specify
Frequency Tolerance (at 25 °C)	±10, ±20, ±30 ppm, or specify
Frequency Stability Over Operating Temperature Range	±10, ±20, ±30 ppm, or specify
Operating Temperature Range	-20 ~ +70 °C, -40~+85 °C, or specify
Storage Temperature Range	-40 ~ +85 °C, or specify
Shunt Capacitance (C0)	7 pF Max.
Drive Level	1 ~ 1000 µW (100 µW typical)
Insulation Resistance	500 MΩ Minimum at 100VDC
Aging (at 25°C)	±3 ppm / year Max.



Pb Free

**RoHS
Compliant**

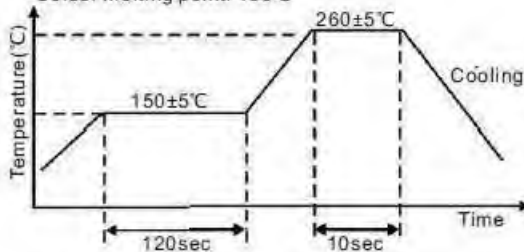
Equivalent Series Resistance(ESR) Frequency Stability Over Operating Temperature Range

Frequency Range (MHz)	Mode	ESRΩ(MAX)
3.00~3.49	FUND	150
3.50~3.99	FUND	120
4.00~4.99	FUND	100
5.00~6.99	FUND	80
7.00~7.99	FUND	70
8.00~8.99	FUND	60
9.00~9.99	FUND	50
10.00~10.99	FUND	40
11.00~19.99	FUND	30
20.00~40.00	FUND	25
27.00~29.99	3RD	100
30.00~44.99	3RD	80
45.00~80.00	3RD	60

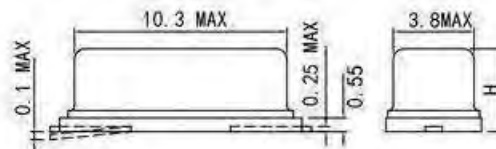
Temperature Range	Frequency Stability (ppm)								
	±3	±5	±7.5	±10	±15	±20	±30	±50	±100
0 ~ +50°C	*	*	*	*	*	*	*	*	*
-10 ~ +60°C		*	*	*	*	*	*	*	*
-20 ~ +70°C			*	*	*	*	*	*	*
-30 ~ +80°C						*	*	*	*
-40 ~ +85°C						*	*	*	*
-40 ~ +105°C									*

Reflow Condition

Total time: 200 sec Max
Solder melting point: 185°C

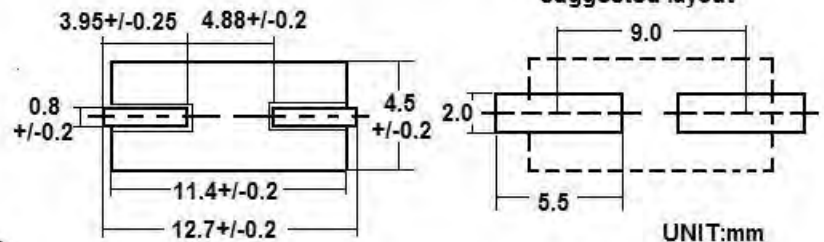


Dimensions (mm)

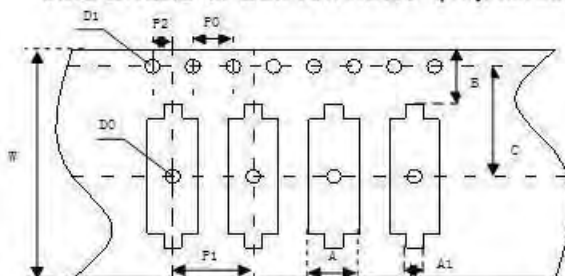


TYPE	H MAX
49S-SMD	4.0
49S2-SMD	3.2
49S3-SMD	3.0
49S4-SMD	2.7

suggested layout



SMD BREDE SPECIFICATIONS (1kpcs/reel)



A	A1	B	C	D0	D1	E0
5.0 ± 0.2	1.8 ± 0.1	5.25 ± 0.2	11.5 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	15 ± 0.1
E1	P0	P1	P2	W	T	K
12 ± 0.1	4.0 ± 0.1	8.0 ± 0.1	2.0 ± 0.1	24 ± 0.5	0.4 ± 0.05	4.35 ± 0.1

Part Numbering System(Example)

49S-SMD-12.000-20-30/30/A
 1 2 3 4 5 6

- 1.Package
- 2.Center frequency
- 3.Load capacitance
- 4.Frequency tolerance
- 5.Frequency Stability Over Operating Temp. Range
- 6.Operating Temperature Range :

A: -20~+70°C
 B: -10~+60°C
 C: 0~+50°C
 D: -30~+80°C
 E: -40~+85°C
 or others