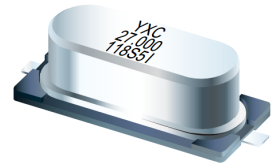


# CRYSTAL UNIT

# HC-49SMD/SSMD



## Applications

- Industrial Control Consumers .

## Features

- Dimensions:49SMD:11.5 x 4.80 x3.8 mm.
- 49SSMD:11.5 x 4.80 x3.0 mm.
- Frequency range:3.2768~64MHz
- Surface mount type crystal units.
- A great number of standard frequency

## Specifications

Standard Frequency	3.2768~64 MHz
Vibration Mode	AT Fundamental
Load Capacitance	12pF, 20pF, or specify
Frequency Tolerance (at 25 °C)	±10ppm, ±20ppm, or specify
Frequency Versus Temperature Characteristics	±20ppm, or specify
Operating Temperature	-20~+70°C, -40~+85°C, or specify
Storage Temperature	-40~+85°C or specify
Shunt Capacitance	7 pF Max.
Level of Drive	1~500µWMax. (100uW typical)
Aging (at 25 °C )	±3ppm/year Max.

## Equivalent Series Resistance(ESR)

Fundamental			
3.2768 ~ 4MHz	180 Ω Max.	6 ~ 17 MHz	80 Ω Max.
4 ~ 5MHz	120 Ω Max.	7 ~ 10 MHz	60 Ω Max.
5 ~ 6 MHz	100 Ω Max.	10 ~ 27MHz	40 Ω Max.
3rd Overtone			
20 ~ 25 MHz	100 Ω Max.	25 ~ 64 MHz	80 Ω Max.

## Dimensions and Patterns [unit:mm]

Package Size – Dimensions (Unit: mm)

Slide View

TYPE	H(SMD HIGH)	h (BODY HIGH)
49SMD	3.8 ± 0.3	3.3 ± 0.3
49SSMD	3.0 ± 0.3	2.3 ± 0.3

Bottom View

Top View Suggested Layout

Units: mm

## Reflow Soldering Profile

Pre Heating Temperature

Tp1 ~ Tp2 = + 170 °C

Heating Temperature

TMit = + 220 °C

Peek Temperature

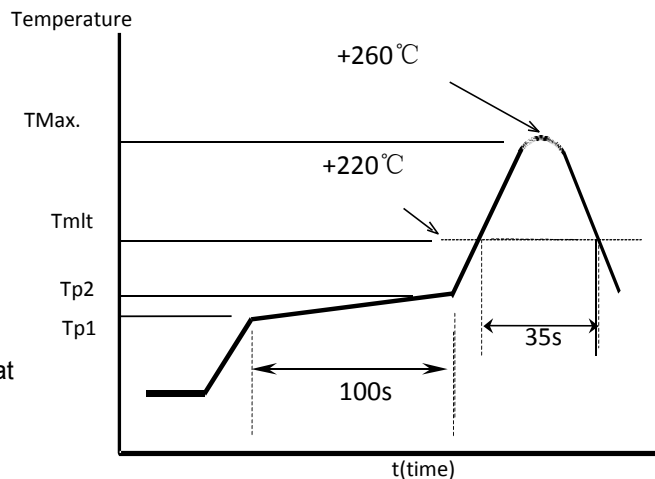
TMax. = + 260 °C

Point of measuring

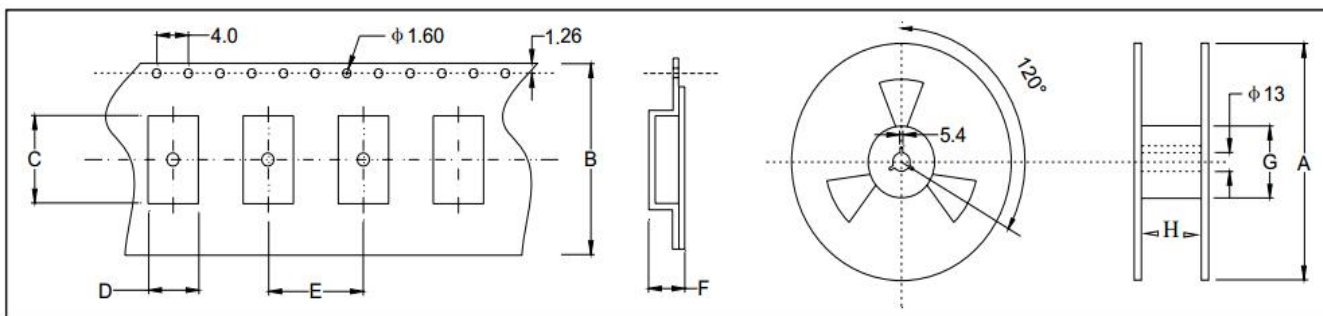
In case of Solder ability

Terminal.

In case of Resistance to soldering heat  
Surface.



## Taping Specification(Unit: mm)



Size	A	B	C	D	E	F	G	H
49SMD	330±2.0	24.0±0.3	11.90±0.1	5.00±0.1	8.0±0.1	4.25±0.2	100.0±1.0	24.5±1.0
49SSMD	330±2.0	24.0±0.3	11.80±0.1	5.00±0.1	8.0±0.1	3.50±0.2	100.0±1.0	24.5±1.0

1000 pcs per reel