

Quartz Crystal Surface Mount HC-49/S SMD Package



Features

- Cost effective
- Excellent aging
- Wide frequency range
- Lower profile
- Excellent reliability



Electrical Specifications

Frequency Range		3.200 to 70.000	MHz
Mode of Oscillation	Fundamental	3.200 to 32.768	
	Third Overtone	24.576 to 70.000	
Frequency Tolerance at 25°C	Standard	±30	PPM Max
	Optional	± 25 to ±10	
Frequency Stability over Temperature Range	Standard	±50	°C
	Optional	±30 to ±10	
Operating Temperature Range	Standard	-20 to +70	PPM Max/Year
	Extended	-40 to +85	
Storage Temperature Range		-55 to +125	
Aging		±5 first year ±3 thereafter	
Load Capacitance		10 to 32 or Series Resonance	pF
Shunt Capacitance		7.0	pF Max
Equivalent Ser Resistance (ESR)		See ESR Table	Ohms
Drive Level		1.0	mW Max
Insulation Resistance		500 at 100Vdc (±15Vdc)	M Ohm

Frequency Range vs. ESR Values

Frequency Range in MHz	ESR Ohms Max	Frequency Range in MHz	ESR Ohms Max
3.200 to 3.500	300	8.000 to 9.999	60
3.510 to 3.999	200	10.000 to 15.999	50
4.000 to 5.999	120	16.000 to 32.768	40
6.000 to 7.999	80	24.576 to 70.000	80

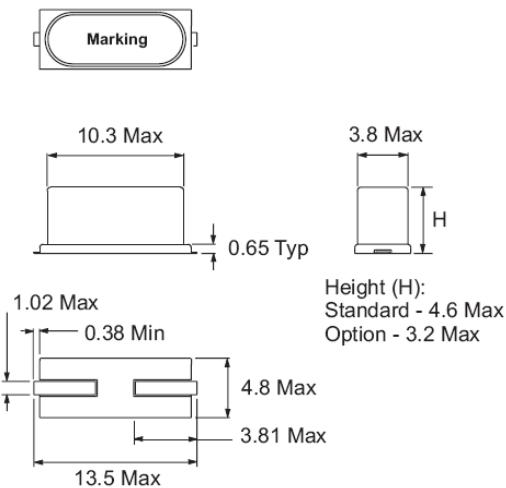
Part Numbering System

Type	-	Frequency	-	Load Capacitance	-	Mode(*1)	-	Tolerance/ Stability(*1)	-
WAS (HC49/S)	-	in MHz	-	10 to 32 for Parallel or S for Series	-	3OT – Third Overtone	-	(PPM/PPM) e.g. 1020, 1010	-

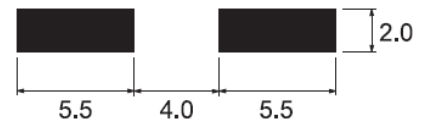
Extended Temperature(*1)	-	Configuration	-	Height(*1)	-	Tape & Reel
EXT	-	SMD (SMD Type)	-	H35 – 3.5mm (custom) H30 – 3.0mm (custom)	-	TR

Examples : WAS-24.576-18-SMD-TR or WAS-54.000-S-3OT-1010-EXT-SMD-H35-TR

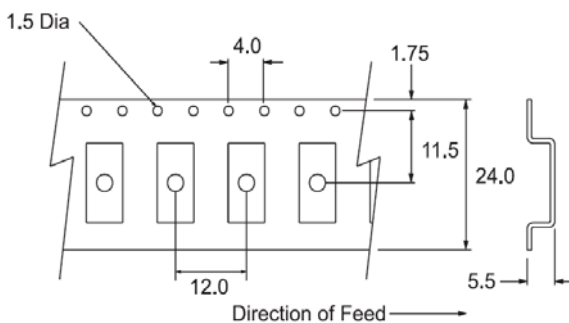
Mechanical Outline



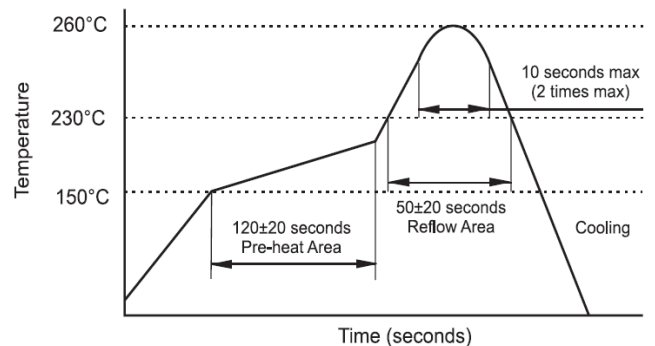
PCB Solder Pad Layout



Carrier Tape Dimensions



Solder Reflow Characteristics



Notes:

- 1 - Fundamental Mode, Standard Tolerance/Stability, Standard Temperature Range and Package Height (4.6mm), do not need to be included in Part Number description.
- 2 - Product is shipped in Tape and Reel configuration. Each reel contains 1000 pieces.
- 3 - Specification subject to change without notice.