

Quartz Crystal Through Hole HC-49/S Leaded Package



Features

- Metal welded package
- High shock resistance
- Excellent frequency aging stability
- High heat resistance
- RoHS Compliant



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	°C
	Extended	-40 to +85	
Storage Temperature Range		-55 to +125	
Aging		±5 first year ±3 thereafter	PPM Max/Year
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

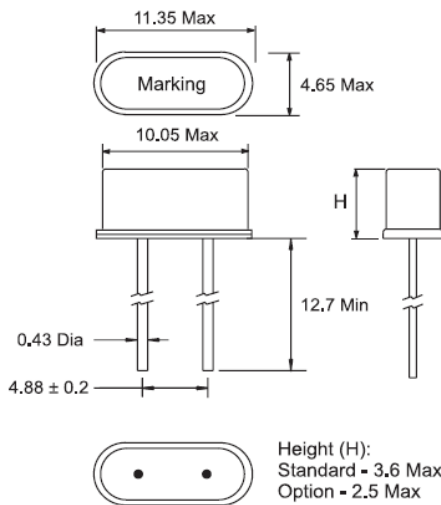
Part Numbering System

Type	-	Frequency	-	Load Capacitance	-	Mode(*1)	-
WAS (HC49/S)	-	in MHz	-	10 to 32 for Parallel or S for Series	-	3OT – Third Overtone	-

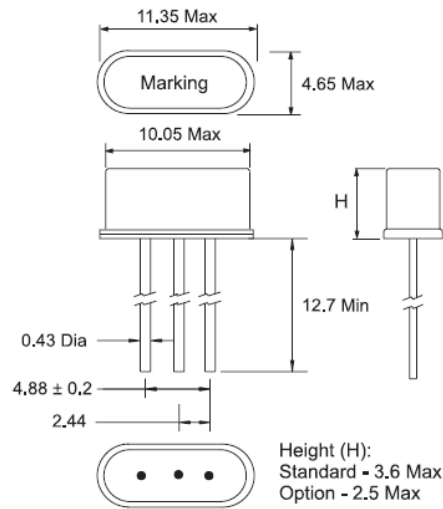
Tolerance/ Stability(*1)	-	Extended Temperature(*1)	-	Mechanical Options(*1)	-	Height(*1)
(PPM/PPM) e.g. 1020, 1010	-	EXT	-	3 PIN – Three pin base SP – Spacer	-	H35 – 3.5mm (custom) H30 – 3.0mm (custom)

Examples : WAS-24.576-18 or WAS-54.000-S-3OT-1010-EXT-SP-H35 or WAS-18.000-20-3PIN

Mechanical Outline

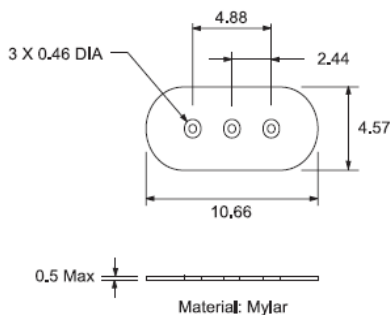


Standard Type: HC-49/U-S

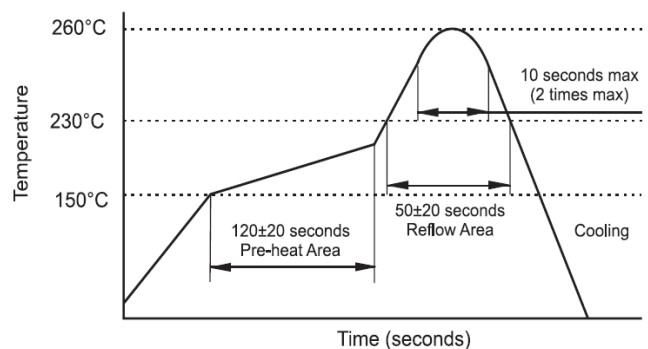


3 Lead Base: HC-49/U-S
with 3 lead (pin) base

Plastic Spacer (Option)



Solder Reflow Characteristics



Notes:

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