HC49US Series

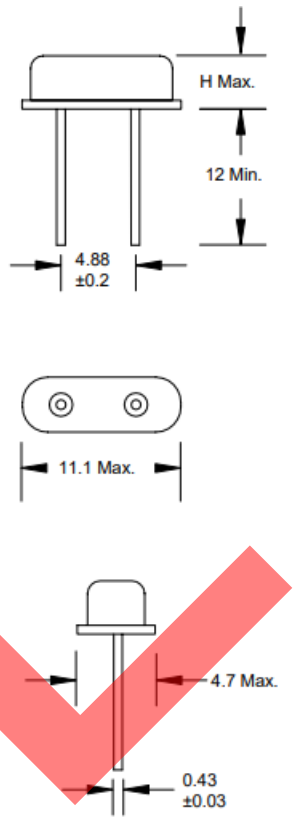
Product Feature:

Low Cost Package
RoHs Compliant
Compatible with Leadfree Processing

Applications:

Fibre Channel
Server & Storage
Sonet /SDH
802.11 / Wifi
T1/E1.T3/E3
System Clock

Frequency	3.2 MHz to 100 MHz
ESR (Equivalent Series Resistance)	
3.2 MHz - 3.49 MHz	300 Ω Max.
3.5 MHz - 3.99 MHz	200 Ω Max.
4.0 MHz - 4.99 MHz	150 Ω Max.
5.0 MHz - 5.99 MHz	120 Ω Max.
6.0 MHz - 6.99 MHz	100 Ω Max.
7.0 MHz - 8.9 MHz	80 Ω Max.
9.0 MHz - 12.9 MHz	60 Ω Max.
13 MHz- 19.9 MHz	40 Ω Max.
20 MHz - 36 MHz	30 Ω Max.
27 MHz – 100.0 MHz (3rd O.T.)	100 Ω Max.
Shunt Capacitance (C0)	7 pF Max.
Frequency Tolerance @ 25° C	±30 ppm Standard (see Part Number Guide for more options)
Frequency Stability over Temperature	±50 ppm Standard (see Part Number Guide for more options)
Crystal Cut	AT Cut
Load Capacitance	18 pF Standard (see Part Number Guide for more options)
Drive Level	1 mW Max.
Aging	±5 ppm Max. / Year Standard
Temperature	
Operating	0° C to +70° C Standard (see Part Number Guide for more options)
Storage	-40° C to +85° C Standard



HC49US, H Max. = 3.5
HC49US2, H Max. = 2.5
HC49US3, H Max. = 2.0

Dimension Units: mm

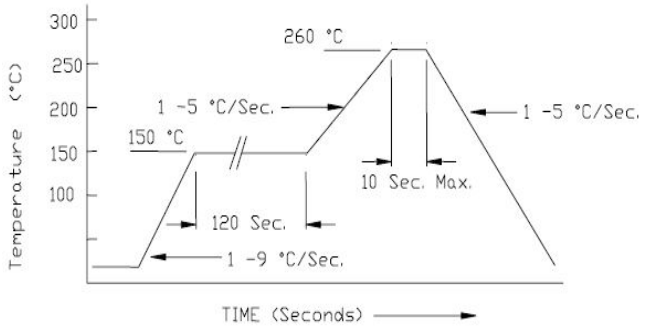
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Part Number Guide — **Sample Part Number: HC49USM - FB1F18 - 20.000**

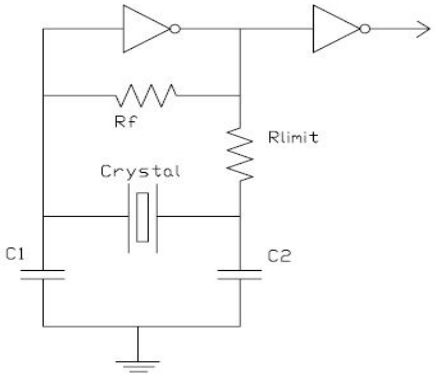
Package	Tolerance (ppm) at Room Temperature	Stability (ppm) over Operating Temperature	Operating Temperature Range	Mode (overtone)	Load Capacitance (pF)	Frequency
HC49US- (3.5 mm H)	B = ±50ppm	B = ±50ppm	0 = 0°C to +50°C	F = Fundamental	18pF Standard Or Specify	-20.000 MHz
	F = ±30ppm	F = ±30ppm	1 = 0°C to +70°C	3 = Third Overtone		
HC49US2- (2.5 mm H)	G = ±25ppm	G = ±25ppm	2 = -10°C to +60°C			
	H = ±20ppm	H = ±20ppm	3 = -20°C to +70°C			
HC49US3- (2.0 mm H)-	I = ±15ppm	I = ±15ppm	5 = -40°C to +85°C			
	J = ±10ppm*	J = ±10ppm	9 = -10°C to +50°C			

* Not available at all frequencies. ** Not available for all temperature ranges.

Pb Free Solder Reflow Profile:



Typical Circuit:



*Units are backward compatible with 240C reflow processes

Package Information:

MSL = 1
Termination = e4 (Sn / Cu/ Ag over Ni over Kovar base metal).

Environmental Specifications:

Thermal Shock	MIL-STD-883, Method 1011, Condition A
Moisture Resistance	MIL-STD-883, Method 1004
Mechanical Shock	MIL-STD-883, Method 2002, Condition B
Mechanical Vibration	MIL-STD-883, Method 2007, Condition A
Resistance to Soldering Heat	J-STD-020C, Table 5-2 Pb-free devices (except 2 cycles max)
Hazardous Substance	Pb-Free / RoHS / Green Compliant
Solderability	JESD22-B102-D Method 2 (Preconditioning E)
Terminal Strength	MIL-STD-883, Method 2004, Test Condition D
Gross Leak	MIL-STD-883, Method 1014, Condition C
Fine Leak	MIL-STD-883, Method 1014, Condition A2, R1=2x10-8 atm cc/s
Solvent Resistance	MIL-STD-202, Method 215

EOL