AXTAL ADVANCED XTAL PRODUCTS

Specification	AXX49S	Rev.: 2	Date: 2014-05-09

Type: Quartz Crystal Unit in low-profile package HC-49/S

Parameter	min.	typ.	Max.	Unit	Condition
Frequency range	3 27		30 70	MHz MHz	Fundamental 3rd overtone
Crystal cut	AT				
Load capacitance C_L	Series or 5 pF to 50 pF				
Adjustment tolerance @25°C	± 15 to ± 50			ppm	See ordering code
Frequency stability					
Frequency stability over temperature	± 10 to ± 100			ppm	See table 1 and
Operating temperature range	0°/50° to -40°/+105°			°C	ordering code
Long term (aging) per year		±3	±5	ppm	@ 40°C
Series resonance resistance R_1				Ω	See chart
Motional capacitance C_1				fF	Note 3
Static capacitance C_0			7	pF	
Nominal drive level		100		µW	
Drive level dependence (DLD)	According to				IEC 60444-6
Unwanted responses SF = Rspur/R1					Note 3
Insulation resistance	100			MΩ	100 V DC
Storage temperature range	-45		+105	°C	
Enclosure (see drawing)	HC-49/S1	HC-49/S2	HC-49/S3		IEC 60122-3
Can height H max	3.6	3.0	2.1	mm	
Packing	bulk				
RoHS compliant	YES				

Notes:

1. Terminology and test conditions are according to IEC standard IEC60122-1 or MIL-C3098
2. Measurement technique according to IEC 60444-5 or equivalent
3. On request. Please consult factory

Table 1: Frequency stability over temperature*

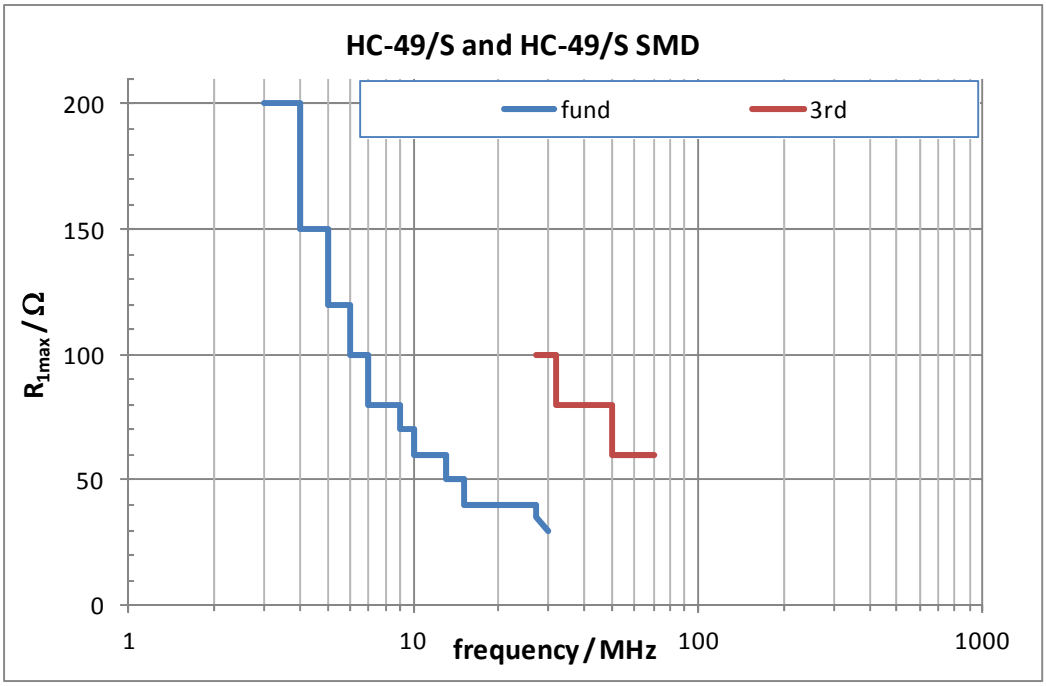
Temperature Range [°C]*	ppm Code	±10 10	±15 15	±20 20	±30 30	±50 50	±100 100
0 … +50	0A	X	X	X	X	X	X
-10 … +60	1B	X	X	X	X	X	X
-20 … +70	2C	X	X	X	X	X	X
-30 … +80	3E	O	X	X	X	X	X
-40 … +85	4F	-	O	X	X	X	X
-40 … +105	4H	-	-	-	-	X	X

X = available*, **O** = available on request, - not available

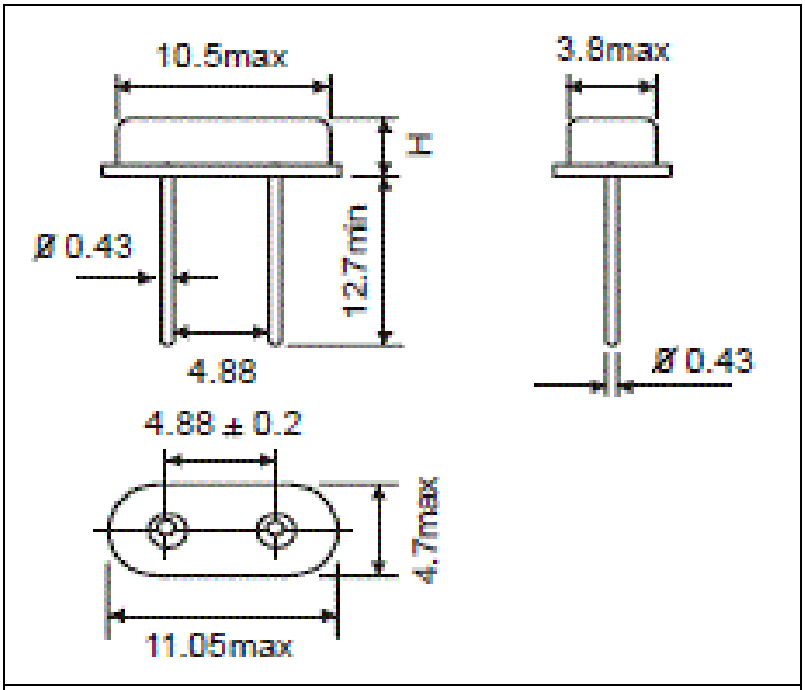
*Other temperature ranges on request

*Not all combinations may be available at all frequencies

Maximum series resonance resistance $R_{1\,max}$ [Ω]



Enclosure drawings



HC-49/S

Ordering Code

Model	Frequency	Load Cap	Mode	Adjustment	Stability		Package Option
AXX49S	[MHz]	[pF] or S= Series	1 = Fund 3. OT	[ppm]	[ppm]	[Code]	S1 : H = 3.6 mm max. S2 : H = 3.0 mm max. S3 : H = 2.1 mm max.
AXX49S	10.000	18	1	20	10	1B	

Example for HC-49/S with H = 3.0 mm max.: AXX49S-10.000-18-1-20-10-1B-S2

Environmental conditions

Test	IEC 60068-2 Part …	IEC 60122-1 Clause …	Test conditions
Sealing tests	2-17	4.8.2	Gross leak: Test Qc, Fine leak: Test Qk
Solderability Resistance to soldering heat	2-20	4.8.3	Test Ta (235 ± 5)°C Method 1 Test Tb Method 1A, 5s
Shock	2-27	4.8.8	Test Ea, 3 x per axes 100g, 6 ms half-sine pulse
Free fall	2-32	4.8.9	Test Ed procedure 1, 2 drops from 1m height
Vibration, sinusoidal	2-6	4.8.7	Test Fc, 30 min per axes, 10 Hz - 55 Hz 0,75mm; 55 Hz - 1 kHz, 10g
Endurance tests - ageing - extended aging		 4.9.1 4.9.2	 30 days @ 85°C 1000h, 2000h, 8000h @85°C

Revision History

Rev.	Date [dd.mm.yyyy]	Remarks	Author	Checked
1	15.01.2005	First issue	BN	BN
2	09.05.2014	Major editorial changes, order code changed	BN	BN