

Precision Quartz Crystals
UM-1, UM-5, HC-49/U
(8.0 ~ 250)MHz

- fundamental to 52.0MHz
- AT cut quartz
- precision tolerances
- standard and custom frequencies

Electrical specification:

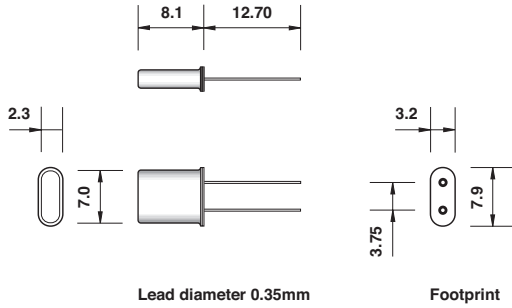
Case style	UM-1: height 8.0mm,	UM-5: height 6.0mm,	HC-49/U: height 13.46mm
frequency range	(8.0 ~ 250.0)MHz, fundamental to 52.0MHz	(10.0 ~ 250.0)MHz, fundamental to 52.0MHz	(10.0 ~ 250.0)MHz, fundamental to 52.0MHz
adjustment tolerance	from ± 5 ppm at +25°C, frequency dependent		
temperature tolerance	from ± 3 ppm, frequency and temperature range dependent		
operating temperature	(-10 +60)°C ~ (-40 +105)°C		
storage temperature	(-40 +125)°C		
load	customer specified		
shunt capacitance C_0	5.0pF max.		
drive level	10 μ W ~ 1.0milli.W typical		
Q factor	100,000 typical		
ageing	± 1 ppm first year max.		
insulation resistance	500Meg. ohm min. at+100Vd.c.		

Ordering information

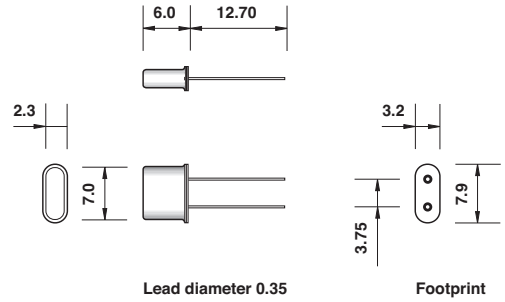
EXAMPLE	UM-1 crystal, 24.00MHz, load 20pF, ± 5 ppm at +25°C, ± 5 ppm(-20 +70)°C
TFC PART NUMBER	XH 24.00M H A A C
XH	crystal series: XH = UM-1, XG = UM-5, XF = HC-49/U
24.00M	frequency: 24.00M = 24.00MHz, frequency range from (8.0 ~ 250)MHz
H	load capacitance: H = 20pF
A	adjustment tolerance at +25°C: A = ± 5 ppm
A	temperature tolerance: A = ± 5 ppm
C	temperature range: C = (-20 +70)°C
load capacitance	C: 10pF, D: 12pF, E: 15pF, G: 18pF, H: 20pF, I: 30pF, J: 32pF, S: series
adjustment tolerance	A: ± 5 ppm, B: ± 10 ppm, C: ± 20 ppm, E: ± 30 ppm, G: ± 50 ppm, H: ± 100 ppm, P: ± 15 ppm
temperature tolerance	A: ± 5 ppm, B: ± 10 ppm, C: ± 20 ppm, E: ± 30 ppm, G: ± 50 ppm, H: ± 100 ppm, P: ± 15 ppm
temperature range	B: (0 +55)°C, I: (-10 +60)°C, C: (-20 +70)°C, L: (-40 +85)°C

Precision Quartz Crystals UM-1, UM-5, HC-49/U

UM-1 dimensions(mm)



UM-5 dimensions(mm)



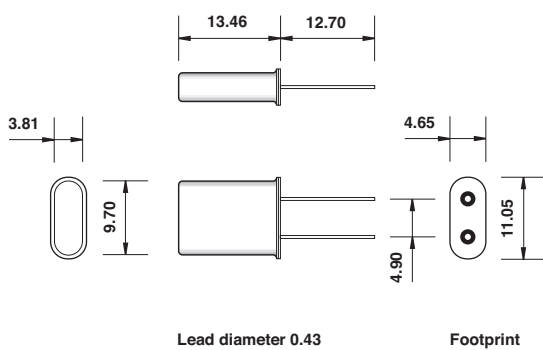
UM-1 equivalent series resistance

frequency range(MHz)	cut/mode	esr(Ω)
(11.50 ~ 13.0)	AT1	<45
(13.0 ~ 50.0)	AT1	<45
(25.0 ~ 48.0)	AT3	<50
(48.0 ~ 100)	AT3	<40
(75.0 ~ 125)	AT5	<100
(125 ~ 180)	AT7	<120

UM-5 equivalent series resistance

frequency range(MHz)	cut/mode	esr(Ω)
(11.50 ~ 13.0)	AT1	<45
(13.0 ~ 50.0)	AT1	<45
(25.0 ~ 48.0)	AT3	<50
(48.0 ~ 100)	AT3	<40
(75.0 ~ 125)	AT5	<100
(125 ~ 180)	AT7	<120

HC-49/U dimensions(mm)



UM-49 equivalent series resistance

frequency range(MHz)	cut/mode	esr(Ω)
(3.28 ~ 3.50)	AT1	<45
(3.50 ~ 4.0)	AT1	<45
(4.0 ~ 4.40)	AT1	<50
(4.4 ~ 5.0)	AT1	<40
(5.0 ~ 6.0)	AT1	<100
(6.0 ~ 7.0)	AT1	<120
(7.0 ~ 11.50)	AT1	<45
(11.50 ~ 13.0)	AT1	<45
(13.0 ~ 50.0)	AT1	<45
(25.0 ~ 48.0)	AT3	<50
(48.0 ~ 100)	AT3	<40
(75.0 ~ 125)	AT5	<100
(125 ~ 180)	AT7	<120