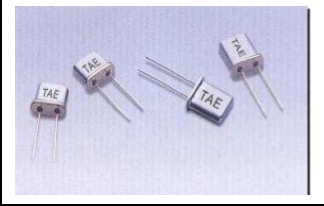


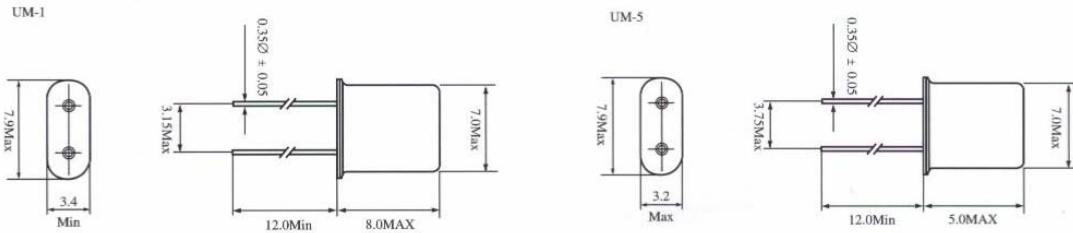
Quartz Crystal Units TUM-1 & TUM-5

● APPLICATIONS

Various standard frequencies from 10MHz up to 125.000MHz are available. Small size and high accuracy frequency output crystal units are widely used in compact communication equipment



Mechanical Dimensions(mm)



Electronic specifications

Partameter	Symb	Units	Typical	Min	Max	Condition
Frequency Range	fo	MHz		10.000	125.000	
Frequency Tolerance	$\Delta f/fo$	PPm	± 30	± 10	± 50	At25°C
Temperature Stability	$\Delta f/fo$	PPm	See Table 1			At25°C
OperagingTemperature Range	T _{OPR}	°C	See Table 1			
Storage Temperature Range	T _{STG}	°C	-55~+125			
Valent Series Resistance	R ₁	Ω	Please see the table below			
Shunt Capacitance	Co	pF			7	
Load Capacitance	C _L	pF	30	10	Series	
Insulator Resistance		MΩ		500		
Drive Level		μ W	30		1	Dc100V±15V
Aging		ppM		± 5.0		
Leak			2×10^{-8} cc/sec Max,Helium			At25°C,per year

Equivalent Series Resistance(ESR) and Mode of operation(Mode)

Frequency Range	Max ESR(Ω)	Mode
10MHz to 12.999MHz	60	Fundamental
13.000MHz to 19.999MHz	40	Fundamental
20.000MHz to 29.999MHz	30	Fundamental
24.000MHz to 39.999MHz	60	Third Overtone
40.000MHz to 79.999MHz	50	Third Overtone
80.000MHz to 125.000MHz	100	Third Overtone

Table 1
Frequency Stability vs Temperature Range
(25°C Standard)

Temp Range	Frequency Stability (ppm)					
60	± 5	± 10	± 15	± 20	± 30	± 50
40	± 5	± 10	± 15	± 20	± 30	± 50
30	± 5	± 10	± 15	± 20	± 30	± 50
60		± 10	± 15	± 20	± 30	± 50
50				± 20	± 30	± 50