

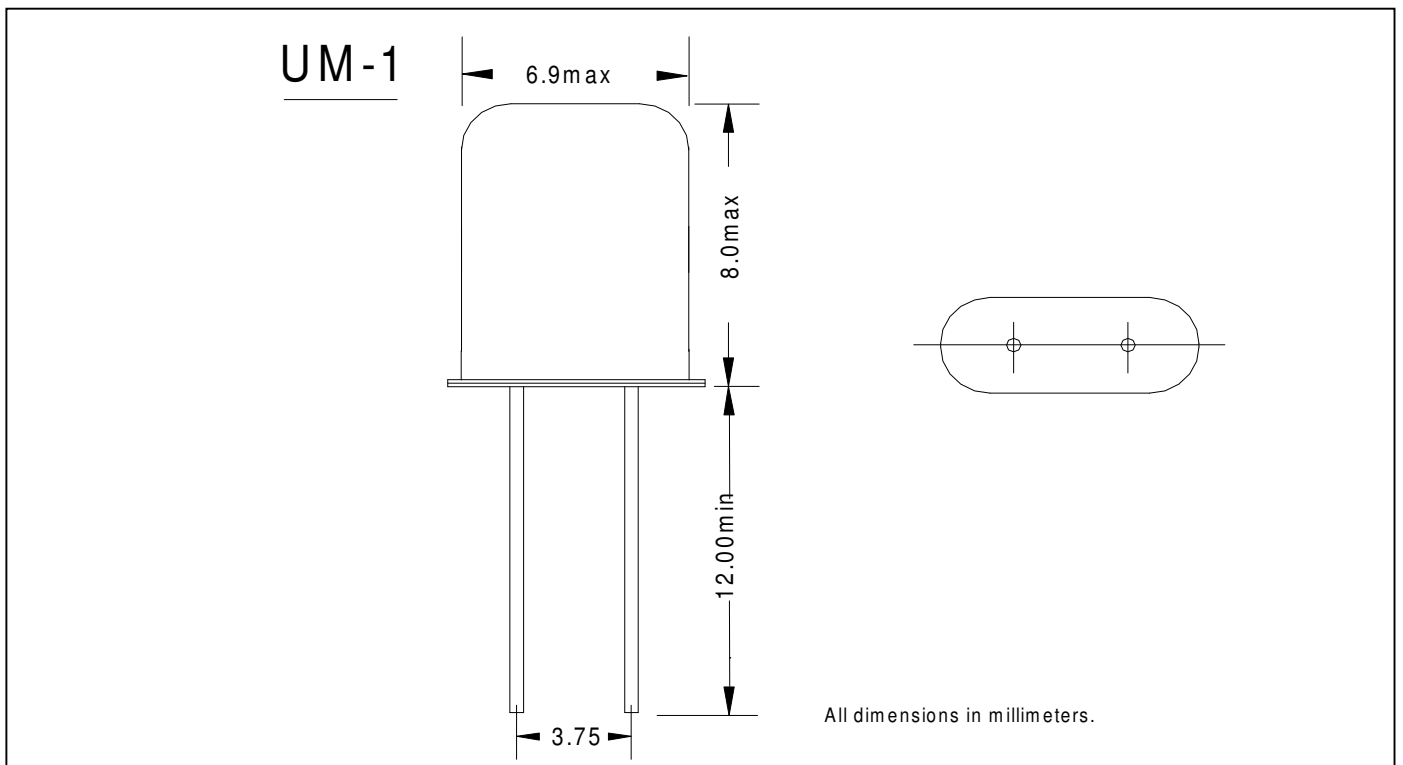
# UM-1

## Features

- compact
- extremely high stability
- extremely slow aging

## Applications

- Bluetooth
- GPS / HDD
- WLAN PDA / Modem
- Pager



**Specifications**

Vibration Mode:	fundamental / third overtone / fifth overtone
Frequency Tolerance at 25°C :	±10ppm ~ ±50ppm
Loading Capacitance:	10pF ~ 32pF for series
Shunt Capacitance:	7.0pF max.
Equivalent Series Resistance:	see Resistance Table
Frequency vs. Operating Temp:	see Frequency vs Operating Temp Table
Drive Level:	10 μ W ~ 1000 μ W
Insulation Resistance:	500MΩ min / DC 100V
Storage Temperature Range:	-40°C ~ +85°C

**Resistance Table (ESR)**

Frequency Range(MHz):	UM-1 / SMD	UM-5 / SMD	Vibration mode
3.500+ ~ 4.000	200	-	fundamental
4.000+ ~ 5.000	150	-	fundamental
5.000+ ~ 10.000	60	-	fundamental
10.000+ ~ 15.000	40	60	fundamental
15.000+ ~ 30.000	30	35	fundamental
30.000+ ~ 50.000	45	50	third overtone
50.000+ ~ 100.000	60	60	third overtone
100.000 ~ 160.000	80	90	fifth overtone

**Frequency vs Operating Temp Table**

Temp(°C)	PPM						
	±2.5	±5	±10	±15	±20	±30	±50
0 ~ +50	*	*	*	*	*	*	*
-10 ~ +60		*	*	*	*	*	*
-20 ~ +70		*	*	*	*	*	*
-30 ~ +80			*	*	*	*	*
-40 ~ +85			*	*	*	*	*