

UM1 CRYSTALS

ISSUE 13; 1 NOVEMBER 2010 - RoHS 2002/95/EC

Description

- Industry standard leaded package
- Resistance welded, hermetically sealed in an inert atmosphere, glass to metal seals on leads
- Variants available include but are not limited to:-
3L = a centre mounted third leg grounds the can
Gull-Wing = SMD version see outline drawing
- Please contact our sales offices for more options
- HC45 package is not dimensionally identical to the UM1 but for most applications the two packages are interchangeable
- For UM4 and UM5 package type please contact the sales offices

General Specifications

- Load Capacitance (C_L): 10pF to 75pF or Series
- Drive Level: 1mW max
- Ageing: ± 3 ppm typical per year at 25°C
- Shunt Capacitance (C_0): 7pF max

Standard Frequency Tolerances and Stabilities

- ± 5 ppm, ± 10 ppm, ± 15 ppm, ± 20 ppm, ± 30 ppm, ± 50 ppm, ± 100 ppm

Operating Temperature Ranges

- 0 to 50°C
- 10 to 60°C
- 20 to 70°C
- 30 to 80°C
- 40 to 85°C
- 55 to 105°C
- 55 to 125°C

Storage Temperature Range

- 55 to 125°C

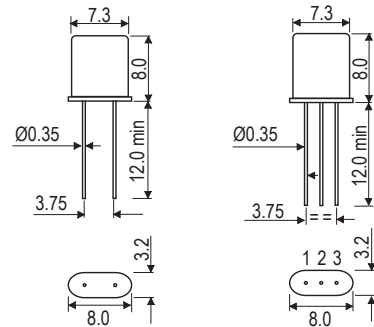
Environmental

- Shock: 981m/s², 6ms, 3 times in each of 3 mutually perpendicular planes
- Vibration: 10Hz-60Hz, 0.75mm amplitude, 60Hz-2000Hz, 98.1m/s², 30mins in 3 mutually perpendicular planes

Packaging

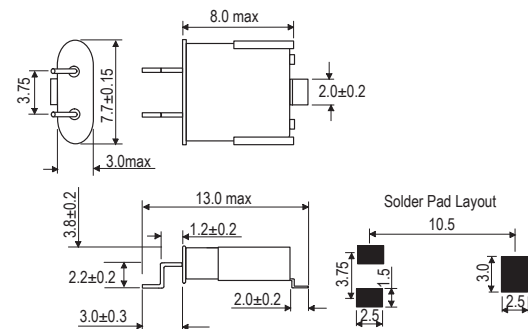
- Loose in bulk pack, 100pcs per bag
- Tape & reel in accordance with EIA-468-C, 1kpcs per reel (please see pages 372 & 373)
- Gull-Wing Surface Mount - Tape and reel in accordance with EIA-481-D, 1kpcs per reel (please see pages 372 & 373)

Outline (mm) - UM1 & UM1-3L



Pin connections
1. Crystal
2. Case & GND
3. Crystal

Outline (mm) - UM1 Gull-Wing



Ordering Information (*minimum required)

- Frequency*
- Model*
- Frequency Tolerance (@25°C)*
- Frequency Stability (over operating temperature range)*
- Operating Temperature Range*
- Load Capacitance*
- Overtone*

Example

- 10.0MHz UM1
50/50/-40 to 85C/10 FUND



Electrical Specifications - maximum limiting values

Frequency Range	Frequency Tolerance @25°C ±2°C	Operating Temperature Range	Frequency Stability Available Over Operating Temperature Range		ESR Max	Vibration Mode
			Minimum	Maximum		
6.0 to <10.0MHz	±5ppm to ±100ppm	0 to 50°C	±10ppm	±100ppm	80Ω	Fundamental AT cut
		-10 to 60°C	±15ppm			
		-20 to 70°C				
		-30 to 80°C	±20ppm			
		-40 to 85°C	±25ppm			
		-55 to 105°C	±50ppm			
10.0 to <15.0MHz		0 to 50°C	±10ppm		60Ω	
		-10 to 60°C	±15ppm			
		-20 to 70°C				
		-30 to 80°C	±20ppm			
		-40 to 85°C	±25ppm			
		-55 to 105°C	±50ppm			
15.0 to 30.0MHz		0 to 50°C	±5ppm		30Ω	
		-10 to 60°C				
		-20 to 70°C	±10ppm			
		-30 to 80°C	±20ppm			
		-40 to 85°C	±25ppm			
		-55 to 105°C	±50ppm			
25.0 to 90.0MHz		0 to 50°C	±5ppm		45Ω	3rd Overtone AT cut
		-10 to 60°C				
		-20 to 70°C	±10ppm			
		-30 to 80°C	±20ppm			
		-40 to 85°C	±25ppm			
		-55 to 105°C	±50ppm			
60.0 to 150.0MHz		0 to 50°C	±5ppm		100Ω	5th Overtone AT cut
		-10 to 60°C				
		-20 to 70°C	±10ppm			
		-30 to 80°C	±20ppm			
		-40 to 85°C	±25ppm			
		-55 to 105°C	±50ppm			
125.0 to 175.0MHz		0 to 50°C	±5ppm		200Ω	7th Overtone AT cut
		-10 to 60°C				
		-20 to 70°C	±10ppm			
		-30 to 80°C	±20ppm			
		-40 to 85°C	±25ppm			
		-55 to 105°C	±50ppm			
Note: For other frequency / specification combinations, please contact our sales offices						

