



ISSUE 13; February 2012 - RoHS 2011/65/EU

### 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  
SMD = Gull-Wing version  
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

### Frequency Range

- Frequency 6.0 to 175.0Mhz
- Frequency Tolerance  $\pm 5\text{ppm}$  to  $\pm 100\text{ppm}$

### General Specification

- Load Capacitance (CL) 10.0pF to 75.0pF or Series
- Drive Level 1mW max
- Ageing  $\pm 3\text{ppm}$  typical per year
- Shunt Capacitance (C0) 7pF max

### Operating Temperature Ranges

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

### Environmental Parameters

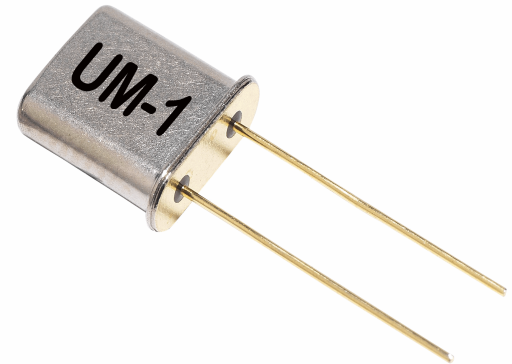
- Storage Temperature Range: -55 to 125°C
- Shock: 981m/s<sup>2</sup>, 6ms, 3 times in each of 3 mutually perpendicular planes
- Vibration: 10Hz-60Hz, 0.75mm amplitude, 60Hz-2000Hz, 98.1m/s<sup>2</sup>, 30mins in 3 mutually perpendicular planes

### Ordering Information

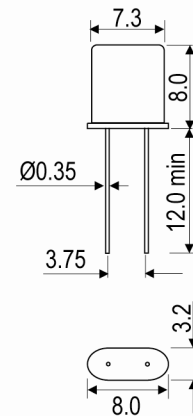
- Frequency\*  
Model\*  
Frequency Tolerance (@ 25°C)\*  
Frequency Stability (over operating temperature range)\*  
Operating Temperature Range\*  
Load Capacitance\*  
Overtone\*  
(\*minimum required)
- Example  
10.0MHz UM1  
50/50/-40 to 85C/10 FUND

### Packing Details

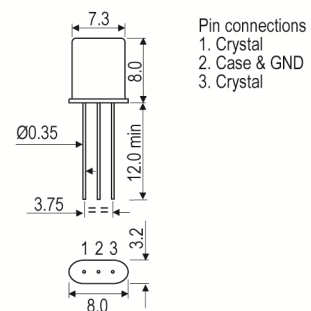
- Pack Style: **Bulk** Loose in bulk pack  
Pack Size 100
- Pack Style: **Reel** Tape and reel in accordance with EIA-468-C (I)  
Pack Size 1,000



### Outline (mm)



### -SMD = Surface Mount Device



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

### Sales Office Contact Details:

UK: +44 (0)1460 270200  
Germany: +49 (0)7264 9145-0

France: Opening 6th March 2012  
USA: +1 (0) 650 798 5047

Email: [info@iqdfrequencyproducts.com](mailto:info@iqdfrequencyproducts.com)  
Web: [www.iqdfrequencyproducts.com](http://www.iqdfrequencyproducts.com)



- Alternative packing options available

**Electrical Specification - maximum limiting values**

Frequency Range	Frequency Tolerance	Stability		Temperature Range	ESR Max	Vibration Mode
		Min	Max			
6.0 to <10.0MHz	±5 to ±100ppm	±10ppm ±15ppm ±15ppm ±20ppm ±25ppm ±50ppm ±50ppm	±100ppm	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	80Ω	Fundamental
10.0 to <15.0MHz	±5 to ±100ppm	±10ppm ±15ppm ±15ppm ±20ppm ±25ppm ±50ppm ±50ppm	±100ppm	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	60Ω	Fundamental
15.0 to <30.0MHz	±5 to ±100ppm	±5ppm ±5ppm ±10ppm ±20ppm ±25ppm ±50ppm ±50ppm	±100ppm	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	30Ω	Fundamental
25.0 to <90.0MHz	±5 to ±100ppm	±5ppm ±5ppm ±10ppm ±20ppm ±25ppm ±50ppm ±50ppm	±100ppm	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	45Ω	3RD Overtone
60.0 to <150.0MHz	±5 to ±100ppm	±5ppm ±5ppm ±10ppm ±20ppm ±25ppm ±50ppm ±50ppm	±100ppm	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	100Ω	5TH Overtone
125.0 to <175.0MHz	±5 to ±100ppm	±5ppm ±5ppm ±10ppm ±20ppm ±25ppm ±50ppm ±50ppm	±100ppm	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	200Ω	7TH Overtone

*This document was correct at the time of printing; please contact your local sales office for the latest version*

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