UM-1 and UM-5 Crystals

- **Frequency range 1.0MHz to 200MHz**
- **High-precision crystal ideal for telecoms applications**
- **High quality resistance weld sealing**
- **Suitable for reflow soldering**

DESCRIPTION

Um-1 and UM-5 crystals are a long-established design, being widely used in telecommunications applications where their compact size and ease of producing to close tolerances makes them an ideal crystal. In addition to the standard packages a 'Slimline' package is also available.

SPECIFICATION

Frequency Range		
	UM-1	1.0MHz to 1.2MHz (SL-Cut) 4.0MHz to 200MHz (AT-Cut)
	UM-5	10MHz to 200MHz (AT-Cut)
Oscillation Mode:		See table
Calibration Tolerance at 25°C		
SL-Cut (<1.3MHz):		from ±50ppm
AT-Cut (>4.0MHz):		from ±3ppm
Frequency Tolerance		
	SL-Cut:	from ±100ppm -10° to +60°C
	AT-Cut:	from ±3ppm 0° to +50°C
Shunt Capacitance (C0):		4pF typical, 7pF maximum
Load Capacitance (CL):		Series or from 8pF to 32pF (*Customer specified CL*)
Ageing:		±2ppm maximum, 1st year, ±1ppm per year thereafter.
Drive Level:		100µWatts typ., 500µWatts max.
Crystal Holder:		Resistance-weld hermetic seal
Supply format:		Bulk pack

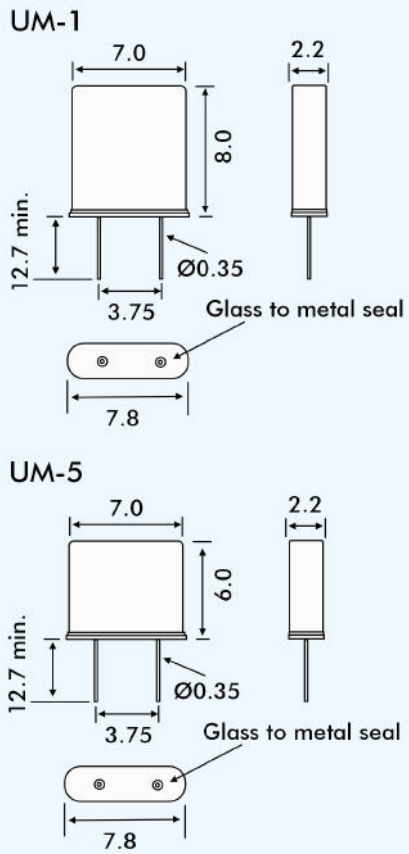
PART NUMBER GENERATION

Part numbers for UM-1 crystals are generated as follows:

Example: 16.00MHz UM-1/20/30/-10+60/18pF/60R

- Nominal Frequency
- Package UM-1 or UM-5
- Calibration tolerance at 25°C (±ppm)
- Temperature Stability over temp. range (±ppm)
- Operating Temp. Range (°C) *(Lower and upper limits)*
- Load Capacitance *(SR for series or CL in pF)*
- Equivalent Series Resistance *(Optional - use when special value is required)*

OUTLINE & DIMENSIONS



A three lead (centre earth lead) package is available with the designation UM-1-3L

ESR and OSCILLATION MODE

Frequency Range MHz	Crystal Cut Osc. Mode	ESR Ohms Max.
1.0 ~1.2	SL Fund.	5k
4.0 ~ 4.9	AT Fund.	150
5.0 ~ 5.9	AT Fund.	120
6.0 ~ 6.9	AT Fund.	100
7.0 ~ 7.9	AT Fund.	90
8.0 ~ 8.9	AT Fund.	80
9.0 ~ 10.9	AT Fund.	60
11.0 ~ 12.9	AT Fund.	40
13.0 ~ 45.0	AT Fund.	25
50.1 ~ 100.0	AT 3rd o.	40
80.0 ~ 200.0	AT 5th o.	80

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