

UM1 & UM5 Series



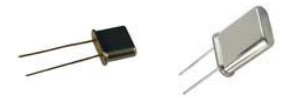
Crystal unit

RoHS & REACH compliant

Metal can Through hole type crystal unit : UM1: 8mm height, UM5 : 6mm height

wide frequency range

SMD gull wing type and 3 lead option available



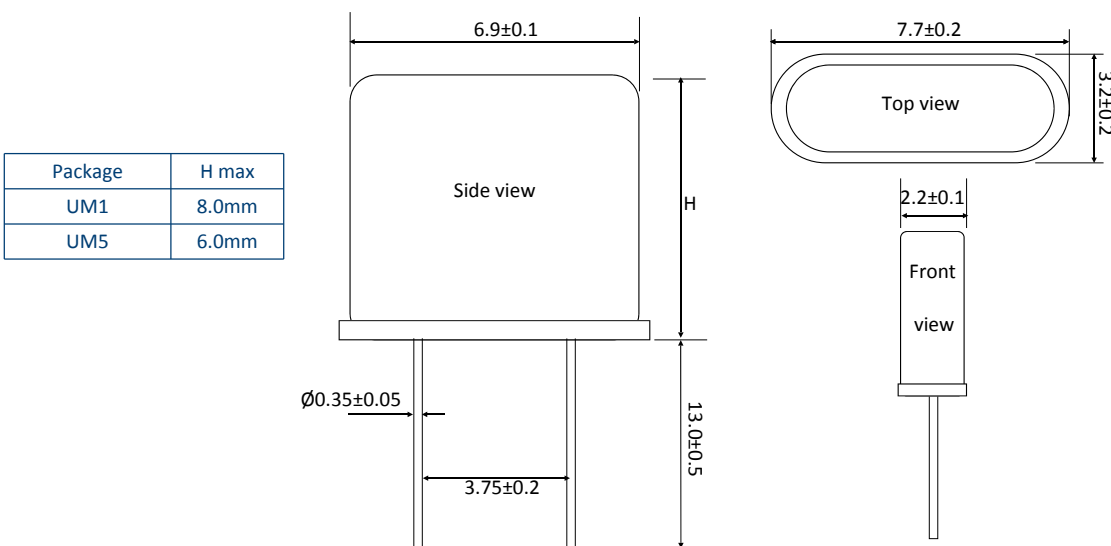
| Parameters | | Specification | Remarks |
|--|------------------|---|-------------------|
| Frequency Range | F _{nom} | 3.5MHz ~ 100.0MHz (UM1) 10.0MHz~100.0MHz (UM5) | Table 1 |
| Frequency Tolerance | F _{tol} | ±5.0ppm ~ ±50.0ppm | ±30.0ppm standard |
| Frequency stability over operating temperature range | F _{stb} | ±5.0ppm ~ ±50.0ppm | Table 2 |
| Operating Temperature Range | T _{use} | -10°C ~ +60°C, -20°C ~ +70°C, -40°C ~ +85°C | Table 2 |
| Storage temperature | T _{stg} | -55°C ~ +125°C | |
| Load capacitance | CL | 5.0pF ~ 32.0pF, Series | |
| Equivalent Series Resistance | ESR | Table 1 | |
| Shunt capacitance | C0 | 7.0pF max | |
| Drive level | DL | 500µW max | 100µW typical |
| Frequency Aging | F _{age} | ±3.0ppm/year at 25°C | |
| Moisture sensitivity level | MSL | 1 (unlimited) | |
| Electrostatic discharge | ESD | Not applicable | |
| Insulation resistance | IR | 500MΩ min | At 100V DC |

| Table 1. Frequency vs ESR | |
|--|------|
| UM1 Series | |
| 3.5Hz ~ 4.5MHz (Fund.) | 200Ω |
| 4.5MHz ~ 6.0MHzFund.) | 150Ω |
| 6.0MHz ~ 7.0MHzFund.) | 120Ω |
| 7.0MHz ~ 8.0MHzFund.) | 100Ω |
| 8.0MHz ~ 9.0MHzFund.) | 60Ω |
| 9.0MHz ~ 11.0MHzFund.) | 40Ω |
| 11.0MHz ~ 13.0MHzFund.) | 35Ω |
| 13.0MHz ~ 50.0MHzFund.) | 30Ω |
| 26.0MHz ~ 100.0MHz(3 rd OT) | 45Ω |

| Table 1. Frequency vs ESR | |
|---------------------------|------|
| UM5 Series | |
| 10.0MHz ~ 12.0MHz (Fund.) | 120Ω |
| 12.)MHz ~ 13.0MHz (Fund.) | 80Ω |
| 13.0MHz ~ 50.0MHz(Fund.) | 40Ω |

| Table 2 Frequency Stability vs Temperature | | | | | |
|--|------------------|------|-----|-----|-----|
| Temp. (°C) | Stability in ppm | | | | |
| | ±10 | ±15 | ±20 | ±30 | ±50 |
| -10°C ~ 60°C | √ | √ | √ | √ | √ |
| -20°C ~ 70°C | √ | √ | √ | √ | √ |
| -40°C ~ 85°C | Enq. | Enq. | √ | √ | √ |

Dimensions (mm)



For Cropped lead crystal options and crystal with washer fitted are available ; Please check part numbering for ordering code.

ACT (A wholly owned Acal BFi Company)
+44 (0) 118 978 8878 | sales@act.co.uk | www.act.co.uk

ISO9001 Registered

Specifications subject to change without notification

UM1 & UM5 Series

Crystal unit



| Part number generation | | | | | | | | |
|--|---|--|--|--|--|--|-------------------------|-------------------|
| MO | 2700 | G | K | L | GO | F | L | -PF |
| ACT Series Code | Frequency (MHz) | Frequency Tolerance (\pm ppm) | Frequency stability over temperature range (\pm ppm) | Operating Temperature Range ($^{\circ}$ C) | Load capacitance (CL -pF) | Frequency Mode | Packaging (Tape & Reel) | RoHS |
| <p><u>UM1</u></p> <p>UM1 Through hole = MO Gull Wing (SMD) = XO</p> <p><u>UM5</u></p> <p>UM5 Through hole = NO Gull Wing (SMD) = ZO</p> | <p>8MHz = 0800 27MHz = 2700</p> <p>Note: Use the first 4 characters of the frequency in Hz i.e. 27MHz = 27000000Hz</p> <p>If the frequency is 100MHz or higher then the first 5 characters are used</p> | <p>\pm5 = A \pm10 = E \pm15 = F \pm20 = G \pm25 = H \pm30 = I \pm50 = L</p> | <p>\pm5 = B \pm10 = F \pm15 = G \pm20 = I \pm25 = J \pm30 = K \pm50 = O</p> | <p>-10~+60 = E -20~+70 = G -30~+80 = K -40~+85 = M</p> | <p>8 = GO 9 = JO 10 = KO 11 = MO 12 = OO 13 = YO 14 = ZO 15 = PO 16 = RO 18 = TO 20 = VO 22 = WO 30 = DA SR = SR</p> | <p>F¹mental = F 3rd OT = A</p> | <p>Loose = L</p> | <p>RoHS = -pF</p> |
| <p>Note: It is important to suffix the above part number with full frequency required to give a completed part number as illustrated below. Full Example Part Number : MO0800GKLGOF-L-PF [8.000MHz], MO2700GKLGOF-L-PF [27.000MHz] , MO2457GKLGOF-L-PF [24.576MHz]</p> | | | | | | | | |

Additional information

Please enquire for SMD gull wing type mechanical drawing
Please enquire for 3 lead option

Drawing control: (Internal use only)
Commodity code: 854160 00 00
Issue number: 1
Date: 1/2/2017
Internal reference: H3

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