

7.8 x 3.1 x 8.0 mm

COMMUNICATION CRYSTALS

ULTRA MINIATURE • UM-1 • UM-4 • UM-5

ABU, ABU4, ABU5

FEATURES:

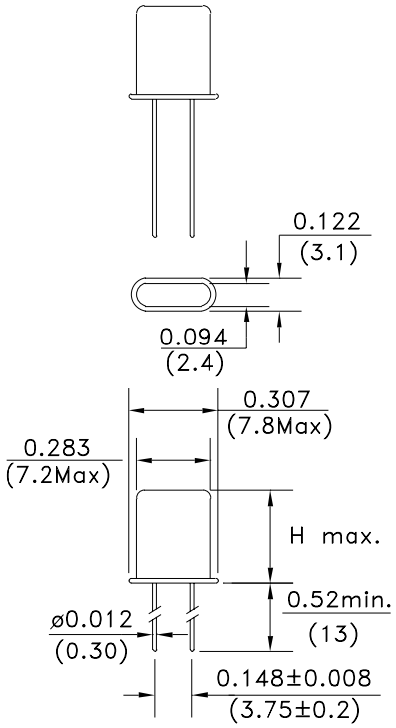
- Compact size.
- High precision crystal.
- Hermetically sealed.
- Excellent frequency temperature characteristics across a wide temperature range.

APPLICATIONS:

- Pagers, Hand-held phones, Cordless phones, Communication equipment.

STANDARD SPECIFICATIONS

PARAMETERS	ABU (UM-1)	ABU4 (UM-4) & ABU5 (UM-5)
Frequency Range	**6MHz - 200MHz**	**10MHz - 200MHz**
Operation Mode	6.00MHz ≤ F ≤ 25.00MHz (Fundamental) 25.0MHz < F < 72.0MHz (3rd overtone) 72.00MHz < F < 160.0MHz (5th overtone) 160.0MHz ≤ F ≤ 200.00MHz (7th overtone)	
Operating Temperature	0°C to +70°C *(See Options)*	
Storage Temperature	-40°C to +125°C	
Frequency Tolerance @ 25°C	±50ppm max. *(See Options)*	
Frequency Stability over Temp.	±50ppm max. *(See Options)*	
Equivalent Series Resistance (ESR) Fundamental	120 Ω max. for 6.0MHz < F < 7.0MHz 100 Ω max. for 7.0MHz ≤ F < 8.0MHz 80 Ω max. for 8.0MHz ≤ F < 10.0MHz 60 Ω max. for 10.0MHz ≤ F < 11.0MHz 50 Ω max. for 11.0MHz ≤ F < 12.0MHz 40 Ω max. for 12.0MHz ≤ F < 14.0MHz 30 Ω max. for 14.0MHz ≤ F ≤ 25.0MHz	
3rd Overtone	70 Ω max. for 25.0MHz ≤ F < 72.0MHz	
5th Overtone	100 Ω max. for 72.0MHz ≤ F < 160.0MHz	
7th Overtone	140 Ω max. for 160.0MHz ≤ F ≤ 200.0MHz	
Shunt Capacitance C_0	7pF max.	
Load Capacitance C_L	18pF *(See Options)*	
Drive Level	1mW max., 100µW correlation	
Aging @ 25°C First Year	±3ppm max. (tighter aging available)	
Insulation Resistance	500M Ω min. at 100Vdc ±15V	



PART NUMBER	H MAX.
UM-1 (ABU)	0.315 (8.0)
UM-4 (ABU4)	0.185 (4.7)
UM-5 (ABU5)	0.236 (6.0)

Dimensions: Inches (mm)

Environmental & mechanical specifications, see appendix C. Group 1. Marking, see appendix G.
Recommended handling, see appendix F. Reflow profile, see appendix E.
Application notes, see appendix A. Value added, see appendix D.

ORDERING OPTIONS

ABUX - Frequency - CL - ESR - Temperature - Tolerance - Stability - Mode - Value Added - Packaging

- **ABUX**: Blank or 4, 5
- **Frequency**: XX.XXXX MHz
- **CL**: Load cap. in pF or -S for Series
- **ESR**: RXXX (value in Ω)
- **Temperature**:
  - -A for -10°C to + 60°C
  - -B for -20°C to + 70°C
  - -C for -30°C to + 70°C
  - -N for -30°C to + 85°C
  - -D for -40°C to + 85°C
- **Tolerance**:
  - -1 for ± 10ppm
  - -7 for ± 15ppm
  - -2 for ± 20ppm
  - -3 for ± 25ppm
  - -4 for ± 30ppm
- **Stability**:
  - -R3 for ± 3ppm
  - -R5 for ± 5ppm
  - -U for ± 10ppm
  - -G for ± 15ppm
  - -X for ± 20ppm
  - -W for ± 25ppm
  - -Y for ± 30ppm
  - -H for ± 35ppm
  - -Z for ± 50ppm
- **Mode**: -F (for Fundamental AT > 25 MHz)
- **Value Added**:
  - - I (Insulator Tab)
  - - L (3rd Lead welded)
  - -L1 (3rd Lead Soldered)
  - - V (Vinyl Sleeving)
  - -M (SMT Formed Leads)
  - -MJ (Metal Jackets and Formed Leads)
  - -QXX (Trimmed Leads)
- **Packaging**:
  - - T (Tape & Reel)
  - - P (Foam)
  - - TY (Tray Packing)

NOTE: Left blank if standard • All specifications and markings subject to change without notice

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