

# COMMUNICATION CRYSTALS

## ULTRA MINIATURE • UM-1 • UM-4

ABU, ABU4



RoHS  
Compliant



7.8 x 3.1 x 8.0 mm

### FEATURES:

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

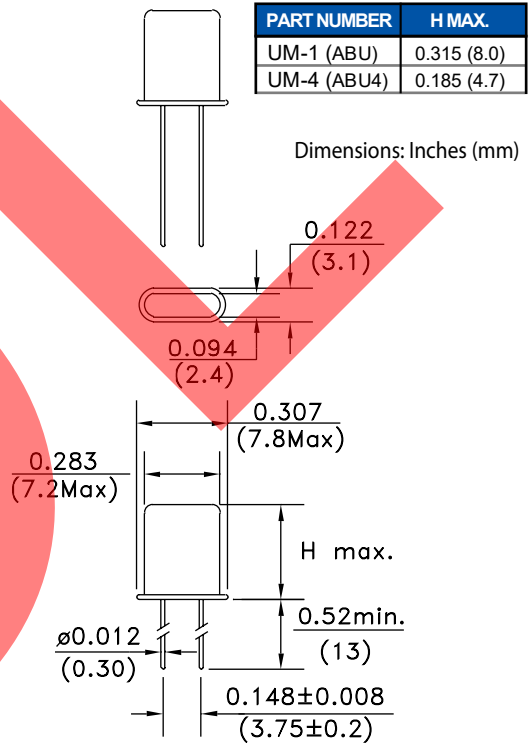
### APPLICATIONS:

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

### STANDARD SPECIFICATIONS:

PARAMETERS	ABU (UM-1)	ABU4 (UM-4)
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)	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	
Fundamental	70 Ω max. for 25.0MHz ≤ F < 72.0MHz	
3rd Overtone	100 Ω max. for 72.0MHz ≤ F < 160.0MHz	
5th Overtone	140 Ω max. for 160.0MHz ≤ F ≤ 200.0MHz	
7th Overtone	7pF max.	
Shunt Capacitance C <sub>0</sub>	18pF (See Options)	
Load Capacitance C <sub>L</sub>	1mW max., 100μW correlation	
Drive Level	±3ppm max. (tighter aging available)	
Aging @ 25°C First Year	500M Ω min. at 100Vdc ±15V	
Insulation Resistance		

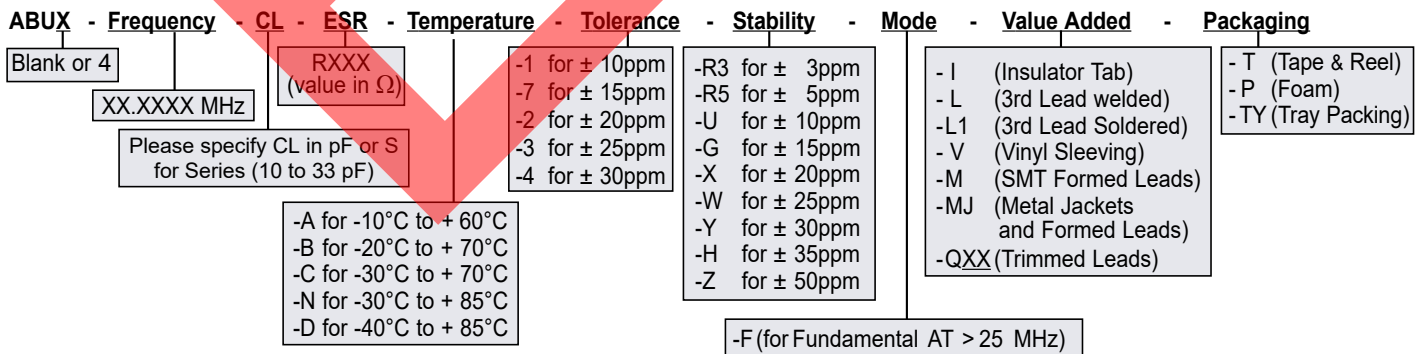
### OUTLINE DIMENSIONS



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

### OPTIONS & PART IDENTIFICATION:

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 CERTIFIED