

# MINIATURE CYLINDER HIGH FREQUENCY CRYSTAL

AB145

AB145

\* RoHS COMPLIANT

5.1 x 1.5mm

## FEATURES:

- Miniature high frequency crystals
- Excellent frequency vs. temperature stability
- Industrial temperature range available

## APPLICATIONS:

- Communications equipment
- Measuring instruments
- Audio and video equipment
- Hand held devices
- Portable electronics
- Microprocessor clocks

## STANDARD SPECIFICATIONS:

PARAMETERS	
Nominal Frequency	16.000MHz - 70.000MHz
Operating Temperature	-10°C to + 60°C
Storage Temperature	-40°C to +85°C
Frequency Tolerance	± 30 ppm max. at +25°C (see option)
Frequency Stability	± 30 ppm max. (see option)
Equivalent Series Resistance	See Table 1
Load Capacitance CL	16pF (see option)
Shunt Capacitance	7pF
Drive Level	500μW max., 100μW correlation
Aging at 25°C/year	± 5ppm max.
Insulation Resistance	500 MΩ min. at 100 Vdc ± 15V

## OPTIONS AND PART IDENTIFICATION (Left blank if standard):

**AB145 - Frequency - CL - ESR - Tolerance - Stability - Packaging**

### CL options:

Load cap. in pF (minimum 10 pF)  
S for Series Resonance

### Freq Stability options:

**U** for ± 10 ppm max.  
**G** for ± 15 ppm max.  
**X** for ± 20 ppm max.  
**W** for ± 25 ppm max.  
**H** for ± 35 ppm max.  
**Z** for ± 50 ppm max.

### ESR options:

RXXX (value in ohms max.)

### Freq Tolerance options:

**1** for ± 10 ppm max.  
**7** for ± 15 ppm max.  
**2** for ± 20 ppm max.  
**3** for ± 25 ppm max.  
**5** for ± 50 ppm max.

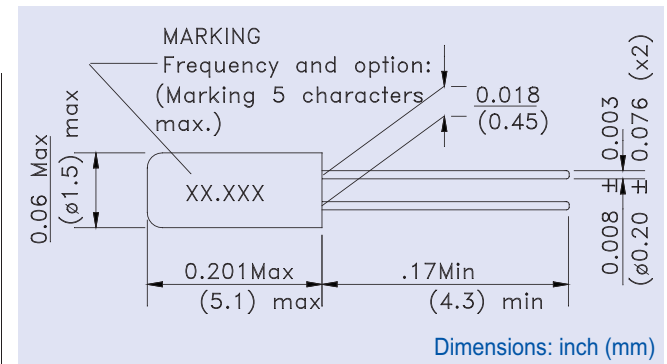
### Packaging option:

T for Tape and Reel

## ENVIRONMENTAL AND MECHANICAL SPECIFICATIONS:

- Shock: Drop test of 3 times on a hard board from 75cm. ±5ppm max. R within spec.
- Vibration: Frequency with an amplitude of 1.5mm or acceleration 10g sweeping between 10Hz to 55Hz within 1 minute for 2 hours minimum on each axis. (X, Y, Z). ±5ppm max. R within spec.
- Terminal strength: Apply 0.5kg load to each terminal and sustain it for 30±5seconds. No visible damage
- Solderability: Dip terminals in RMA flux for 5±0.5sec at room temp. then solder dip at 230°C ± 5°C for 5±0.5sec. 90% coverage with fresh solder.
- Leak test: Take measurements with Helium leak detector. 1\*10<sup>-2</sup> μPa\*m<sup>3</sup>/S
- Thermal Shock: Subject to 5 temperature cycles from -40°C for 30min to 100°C for 30min each cycle. Variation between pre-test and post-test frequencies shall remain between ±5ppm. R within spec.

## OUTLINE DRAWING:



## TABLE 1:

Frequency Range (MHz)	Max ESR (Ω)
16.000 to 19.999 (Fund)	40
20.000 to 29.999 (Fund)	30
30.000 to 70.000 (3 <sup>rd</sup> OT)	100