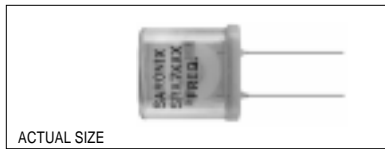


### Technical Data

HC-26/U Series



#### Description

The unit consists of a silver-plated AT-cut quartz plate, encapsulated in a high-vacuum all-glass holder. The holder is hermetically sealed and provided with connecting leads. The unit has outstanding electrical performance and a very high level of reliability. The quartz design yields low resistance and high pullability values. The low resistance is obtained by a high-vacuum, because there is low acoustic resistance. The product has extremely low aging characteristics.

#### Applications & Features

- Transmitters
- Measuring equipment
- Medical applications
- Military applications
- Telephone switchboards
- Oven-controlled oscillators
- Exceptional aging
- Pins for socket mounting or leads for printed-circuit board mounting

**Frequency Range:**  
4.5 MHz to 80 MHz  
4.5 MHz to 25 MHz Fundamental  
20 MHz to 80 MHz 3rd Overtone

**Temperature Range:**  
Operating: -20 to +70°C (other ranges available)  
Operable: -55 to +155°C

**Temperature Stability Tolerance:** ±10, ±20 ppm from -20 to +70°C\*

#### Characteristics at 25°C ±2°C:

Frequency Calibration Tolerance: ±10 ppm (±5 ppm available upon request)  
Load Capacitance: 5 pF to 20 pF or series resonance  
Effective Series Resistance: 150 to 20Ω (frequency dependent, see Figure 2)  
Drive Level: 0.5mW correlation, 2.0mW maximum operating  
Shunt Capacitance: 7 pF max (see Figure 1)  
Motional Capacitance: (see Figure 1)  
Aging: 10 years @ 25°C; 2 ppm max

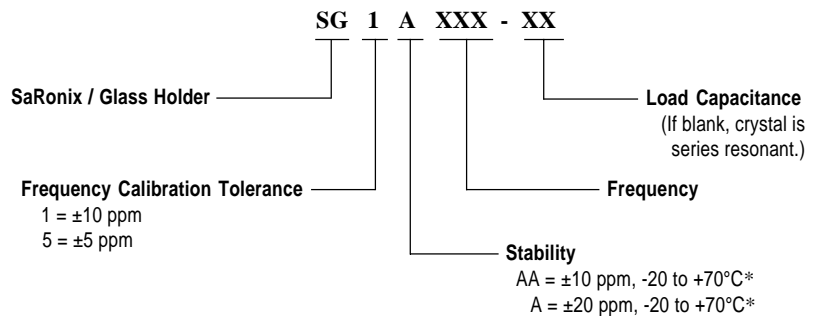
#### Mechanical:

Shock: MIL-STD-883, Method 2002, Condition B  
Solderability: MIL-STD-883, Method 2003  
Terminal Strength: MIL-STD-202, Method 211, Conditions A and C  
Vibration: MIL-STD-883, Method 2007, Condition A  
Solvent Resistance: MIL-STD-202, Method 215  
Resistance to Soldering Heat: MIL-STD-202, Method 210, Condition B

#### Environmental:

Gross Leak Test: MIL-STD-883, Method 1014, Condition C  
Fine Leak Test: MIL-STD-883, Method 1014, Condition A  
Thermal Shock: MIL-STD-883, Method 1011, Condition A  
Moisture Resistance: MIL-STD-883, Method 1004

#### Part Numbering Guide



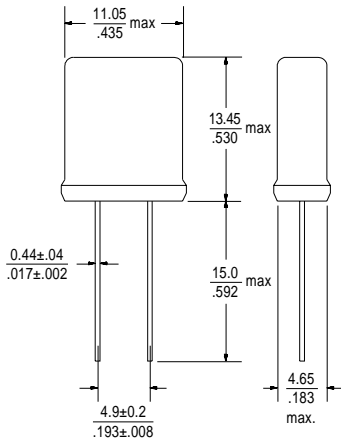
\*Other temperature ranges and tolerances are available upon request.

### Technical Data

### HC-26/U Series

#### Package Details

##### HC-26/U



Scale: None (Dimensions in  $\frac{\text{mm}}{\text{inches}}$ )

#### Parallel capacitance $C_0$ and motional capacitance $C_1$ as a function of resonance freq.

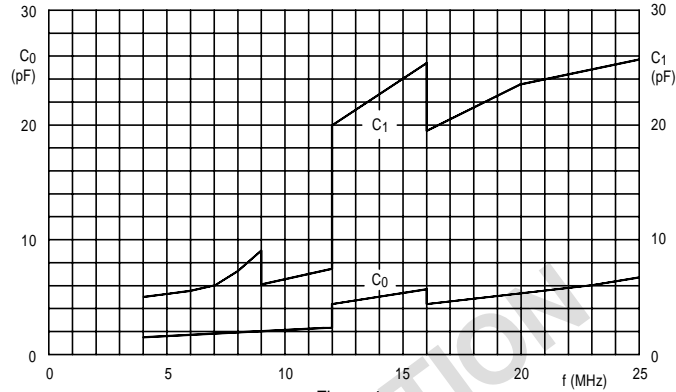


Figure 1

HC-26/U in the fundamental mode (other modes in Table 1).  
Typical values at 25°C.  
Other values available by extrapolation of the curve segments.

Table 1

Mode	Frequency (MHz)	$C_1$ (fF)	$C_0$ max (pF)
3	20.0 to 75	1.5	7
5	75.1 to 125	0.5	7

#### Resonance resistance $R_r$ as a function of resonance frequency

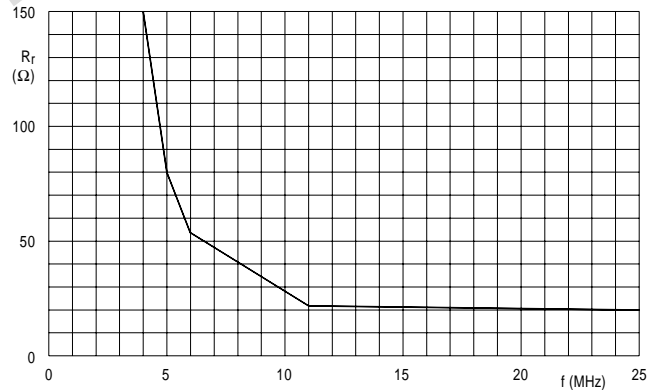


Figure 2

HC-26/U in the fundamental mode (other modes in Table 2).  
Maximum values in the temperature range.  
Other values available by extrapolation with  $C_0$  and  $C_1$  values.

Table 2

Mode	Frequency (MHz)	$R_r$ ( $\Omega$ )
3	20.0 to 30	50
3	30.1 to 75	30
5	50 to 90	50
5	90.1 to 125	70

All specifications are subject to change without notice.