

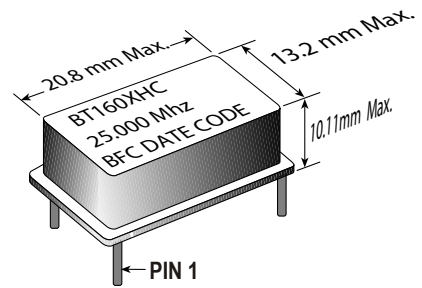


**Applications:**

- Phase Locked Loops
- Clocking
- Sync. for NTSC Video Standards
- Reference Signal
- Signal Tracking

**Features:**

- 1.0 to 40.0 MHz Frequency Range
- ±1ppm Stability; 0°C to 55°C Op. Temperature
- ±2ppm Stability; -40°C to 85°C Op. Temperature
- HCMOS Square Wave Output
- Hermetic Package



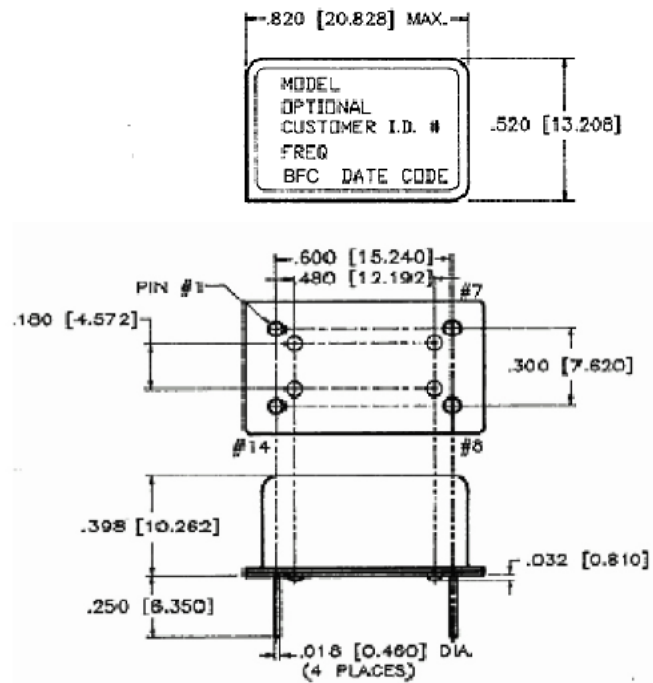
## Electrical Specifications

| Model                                  | BT1601HC  | BT1602HC      |
|--|---|---------------|
| Frequency Range                        | 1MHz to 40MHz   |               |
| Frequency Tolerance<br>@25°C (ppm Max) | ±2.0 ppm  |               |
| Frequency Stability (ppm)              |   |               |
| Overall                                | Inclusive of Calibration, Temperature,<br>Voltage, Load and Aging |               |
| Aging 10 Years (ppm)/All inclusive     | ±2.6  |               |
| Over Operating Temperature             | ±1ppm   | ±2.0ppm       |
| Operating Temperature Range            | 0°C to 55°C   | -40°C to 85°C |
| Storage Temperature                    | -55 to 125°C  |               |
| Supply Voltage                         | +5.0V ±5%   |               |
| Supply Current                         | 30 mA Max   |               |
| Output("HCMOS Square Wave")            | HCMOS Square Wave/15pF  |               |
| Waveform Symmetry                      | 45/55   |               |
| Rise and Fall Time                     | 10 nS Max(std), 6 nS  |               |
| Start Up Time (ms)                     | <10   |               |

(For Custom Deviation Range, Vc Range, etc. - consult factory)

## Mechanical Dimensions

| PIN | Function         |
|-----|------------------|
| 1   | NC               |
| 7   | Gnd/ & Case Gnd  |
| 8   | Output           |
| 14  | +V <sub>CC</sub> |

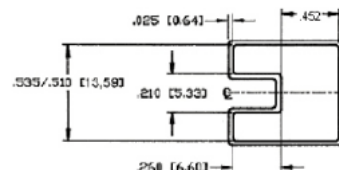


## Part Numbering Guide

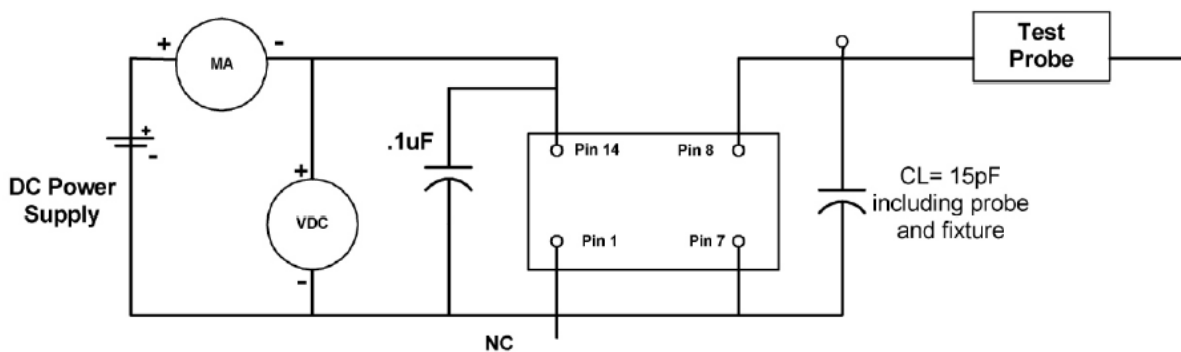
BT160X HC - Specify Frequency

"1" = 0°C to 55°C Operating Temp.  
 "2" = -40°C to +85°C Operating Temp.

## Shipping Tube Dimensional Information



## Test Circuit Description



## Mechanical and Environmental Specifications

| Test                    | Reference Documents                     | Test Description  |
|-------------------------|---|---|
| Temperature Cycle       | MIL-STD-883, Mtd 1010,<br>Cond. B       | -55°C to + 25°C; Air to Air;<br>100 cycles; 10 min. dwell |
| Mechanical Shock        | MIL-STD-883, Mtd 2002,<br>Cond. B       | 1500g's   |
| Vibration               | MIL-STD-883, Mtd 2007,<br>Cond. B       | 20-2000 Hz; 0.06 inch;<br>15 g's; 3 planes                |
| Humidity Steady State   | MIL-STD-202, Mtd 103                    | 40°C; 90%-95% R.H.; 56 days                               |
| Thermal Shock           | MIL-STD-883, Mtd 1011.7,<br>Cond. B     | 100°C to 0°C; Water-to-Water; 15<br>cycles                |
| Electrostatic Discharge | MIL-STD-883, Mtd 3015,<br>Class II      | 2 KV to 4 KV Threshold                                    |
| Solderability           | MIL-STD-883, Mtd 1005.6                 | Solder dip; Meniscograph<br>Criteria                      |
| Hermeticity             | MIL-STD-883, Mtd 2022.2                 | Mass spectro. 2 X 10 <sup>-8</sup> atmos.<br>CC/sec He    |
| Resistance to Soldering | MIL-STD-883, Mtd 1014.8,<br>Cond. A1    | 260°C; 10 seconds; 1 inch/sec.                            |
| Lead Integrity          | MIL-STD-202, Mtd 210A,<br>Cond. C       | Lead tension and bend stress                              |
| Marking Permanence      | MIL-STD-883, Mtd 2004.5,<br>Cond. A, B1 | Resistance to solvents                                    |
| Life Test               | MIL-STD-883, Mtd 2015.8,<br>Cond. B     | 125°C, powered, 1000 hours<br>minimum                     |

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