



5V/3.3V Temperature Compensated Crystal Oscillator

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
- TTL/CMOS Output
- Hermetic Package



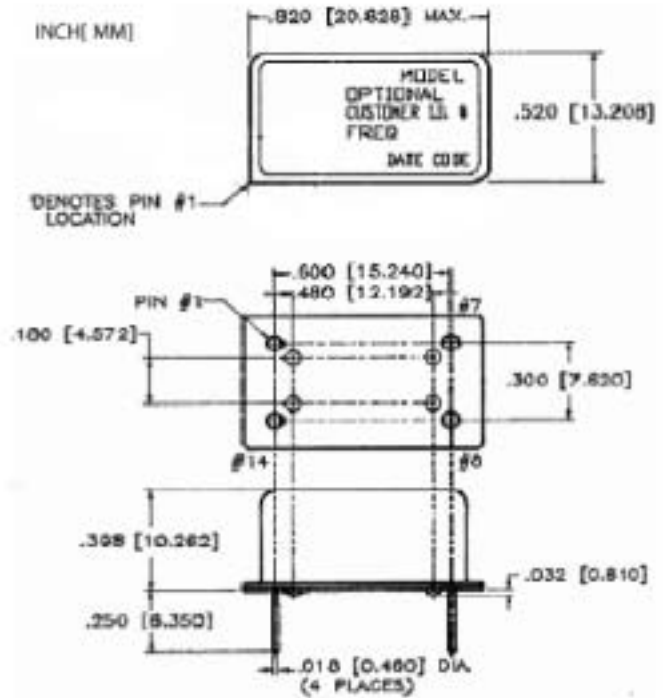
Electrical Specifications

Model	BT1603T	BT1603T-M
Frequency Range	1MHz to 40MHz	
Frequency Tolerance @25°C(ppm Max)	±2.5 ppm	
Frequency Stability(ppm Max)	± 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 or 3.3 Vdc ± 5%, 5 or 3.3 Vdc ± 10%	
Supply Current	30 mA Max	
Symmetry	60/40%(std)	55/45%
Rise and Fall Time	10 nS Max(std), 6 nS	
Load	10TTL w/15pf capacitance(std)	
Frequency Adjustment	INTERNAL TRIMMER + / - 3 pp	
Aging @ 25°C	±1ppm Max/Yr (std)	

(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

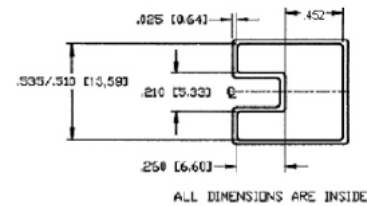
**BT1603T** - Specify Frequency

"BLANK" = 0°C to 55°C Operating Temp.  
 "M" = -40°C to +85°C Operating Temp.

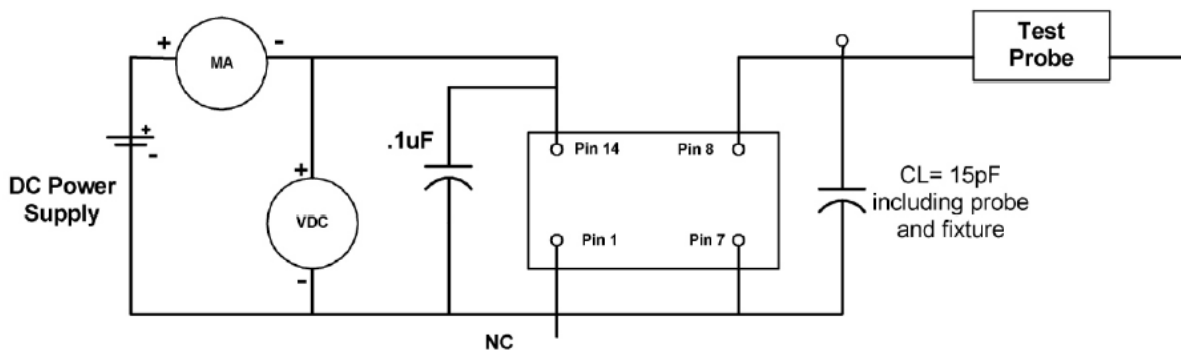
**BT1603T-3** = 3.3v option

**BT163xT** = Blank = 5v standard

## Shipping Tube Dimensional Information



## Test Circuit Description



## Mechanical and Environmental Specifications

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

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