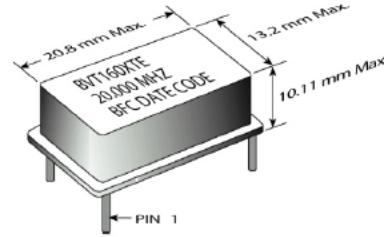




5V Voltage Controlled Temperature Compensated Crystal Oscillator

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
- Non Hermetic Package

Electrical Specifications

Model	BVT1601TE	BVT1602TE
Frequency Range (MHz)	1.0 to 40	
Input Current (mA)	< 20	
Frequency Control Function*		
Voltage Control	Included	
Minimum Deviation (ppm)	±28 ("TEW" model ±40)	
Minimum Deviation Sensitivity (ppm/V)	+14	
Linearity (%)	10	
Modulation Bandwidth (±3dB)	>20 KHz	
Nominal Control Voltage (V)	2.5	
Control Voltage Range (V)	0.5 to 4.5	
Manual Adjusted (ppm)	Not Available	
Transfer Function	Positive	
Input Impedance	> 50K Ω @ 10KHz	
Frequency Stability (ppm)		
Overall	Inclusive of Calibration, Temperature, Voltage, Load and Aging	
25°C Calibration	±3	
Aging 10 Years (ppm)	±2.0	
Over Operating Temperature	±1.0	±2.0
Temperature Range (°C)		
Operating	0°C to +55°C	-40°C to +85°C
Storage	-40°C to +85°C	
Supply Voltage (V)	+5.0V ±5%	
Symmetry TTL/CMOS	45/55 < 14 MHz, 40/60 > 14MHz	
Start Up Time (ms)	<20	

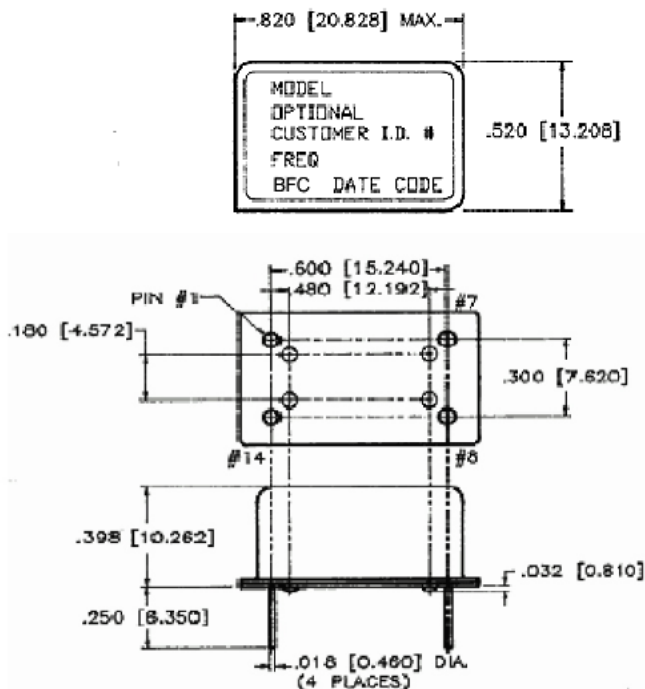
Typical SSB Phase Noise (dBC/Hz)
Offset from Carrier

10Hz	-70
100Hz	-95
1KHz	-120
10KHz	-140
100KHz	-150

*For Custom Deviation Range, Vc Range, etc. - consult factory

Mechanical Dimensions

PIN	Function
1	NC/Voltage Control
7	Gnd/ & Case Gnd
8	Output
14	+V _{CC}



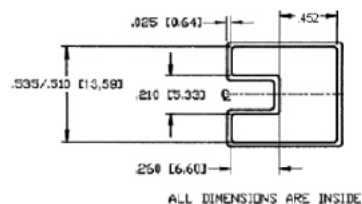
Part Numbering Guide

BVT160XTE X - Specify Frequency

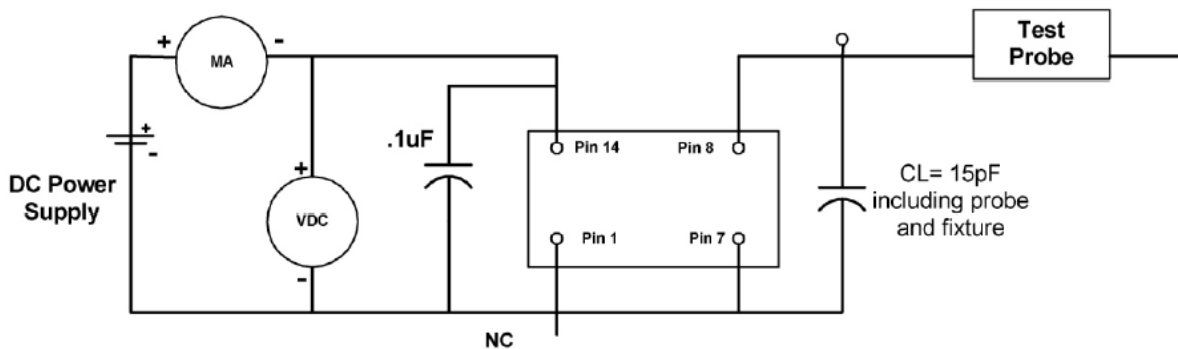
"Blank" = ± 28 ppm min. deviation
"W" = ± 40 ppm

"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, 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 ⁻⁸ 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	125°C, powered, 1000 hours minimum

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