

## 5V Voltage Controlled Temperature Compensated Crystal Oscillator

**Applications:**

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

**Features:**

- 16.0 to 40.0 MHz Frequency Range
- $\pm 1$ ppm Stability; 0°C to 55°C Op. Temperature
- $\pm 2$ ppm Stability; -40°C to 85°C Op. Temperature
- Clipped Sine Wave Output
- Non Hermetic Package

## Electrical Specifications

Model	BVT1601	BVT1602
Frequency Range (MHz)	16 to 40	
Input Current (mA)	< 20	
Frequency Control Function*		
Voltage Control	Included	
Minimum Deviation (ppm)	$\pm 28$	
Minimum Deviation Sensitivity (ppm/V)	+14	
Linearity (%)	10	
Modulation Bandwidth ( $\pm 3$ dB)	>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 $\Omega$ @ 10KHz	
Frequency Stability (ppm)		
Overall	Inclusive of Calibration, Temperature, Voltage, Load and Aging	
25°C Calibration	$\pm 3$	
Aging 10 Years (ppm)	$\pm 2.0$	
Over Operating Temperature	$\pm 1.0$	$\pm 2.0$
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 $\pm 5\%$	
Output("Clipped Sine Wave")	1.0Vp-p min, Clipped Sine Wave;10K/10pF	
Start Up Time (ms)	<20	



## 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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