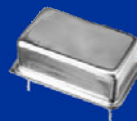




BT16xxT SERIES TCXO

BROOKDALE FREQUENCY CONTROLS, INC.



FEATURES:

- HERMETICALLY SEALED DIL-14 THRU-HOLE PACKAGE TCXO
- HCMOS SQUARE WAVE OUTPUT
- **RoHS Compliant; Pb FREE**
- **REQUEST A CERTIFICATE OF COMPLIANCE**
- WIDE FREQUENCY RANGE: 1.0 MHZ TO 156.0 MHZ
- FREQUENCY STABILITY AS TIGHT AS ± 1.0 PPM
- -40 TO +85°C TEMPERATURE RANGE AVAILABLE
- **REQUEST A QUOTE ON THIS DEVICE**

BT16xxT TCXO SERIES SPECIFICATIONS

Supply Voltage (Vcc)	5Vdc $\pm 5\%$		3.3Vdc $\pm 5\%$				
Frequency Range	1.0 to 200MHz (Fund : up to 40MHz)		1.0 to 160MHz (Fund : up to 40MHz)				
Output Wave Form	Square wave HCMOS						
Frequency Tolerance	± 1.0 ppm / ± 1.5 ppm / ± 2.0 ppm / ± 2.5 ppm / ± 3.0 ppm / ± 4.0 ppm / ± 5.0 ppm @25°C $\pm 2^\circ$ C						
Supply Current	20mA @ 20.0 MHz						
Duty Cycle	60/40%, 55/45%						
Rise Time and Fall Time	5.0ns max. 20% \leftrightarrow 80% of waveform						
Start-Up Time.	10ms max.						
Output Load	15pF/10TTL						
Pull Range	± 5.0 ppm / ± 10.0 ppm / ± 15.0 ppm / ± 20.0 ppm / ± 30.0 ppm / ± 40.0 ppm / ± 50.0 ppm						
Aging	± 1.0 ppm Max / Year						
Storage Temperature	-40 to 85°C						
MSL Level	MSL 1 per IPC/JEDEC-STD-020C						
Humidity	85% $\pm 3\%$ RH, 85°C, 168 Hours						
Hermeticity	Leak rate 2×10^{-8} ATM-cm ³ /sec max. *Crystal component only*						
Solderability	MIL-STD-202F method 208E						
Vibration	MIL-STD-202F method 204, (500 to 2000Hz 6g)(10-500Hz 5g)						
Shock	MIL-STD-202F method 213B, test conditions E, 1000GG 1/2sine wave						
SSB Phase Noise At 25°C	Offset	10 Hz	100Hz	1 kHz	10 kHz	100 kHz	1 MHz
	3.3V-10.0MHz	98.42dBc/Hz	124.8dBc/Hz	145.3dBc/Hz	156.8 dBc/Hz	159.4 dBc/Hz	159.7dBc/Hz
	3.3V-146.2857MHz	48.72dBc/Hz	80.17dBc/Hz	106.7dBc/Hz	118.94dBc/Hz	139.85dBc/Hz	150.5dBc/Hz
Frequency Stability (max)	± 1.0 ppm	± 1.5 ppm	± 2.0 ppm	± 2.5 ppm	± 3.0 ppm	± 4.0 ppm	± 5.0 ppm
Temperature Range (°C)	0 to 60°C	Contact us	YES	YES	YES	YES	YES
	0 to 70°C	Contact us	YES	YES	YES	YES	YES
	-10 to 60°C	N/A	Contact us	YES	YES	YES	YES
	-10 to 70°C	N/A	Contact us	YES	YES	YES	YES
	-20 to 70°C	N/A	Contact us	YES	YES	YES	YES
	-30 to 75°C	N/A	N/A	Contact us	YES	YES	YES
-40 to 85°C	N/A	N/A	N/A	Contact us	YES	YES	YES

BT16xxT TCXO SERIES PART NUMBER GUIDE

MODEL	STABILITY	Output	Voltage	OPERATING TEMP(°C)	Symmetry	Freq. Tolerance@25°C	Pull Range	FREQ.
BT16	01= ± 1 ppm	T=HCMOS	5 = 5.0V	A = 0°C to 70°C	Blank=60/40%	Blank= ± 2.5 ppm	05= ± 5 ppm	
	15= ± 1.5 ppm		33 = 3.3V	B = 0°C to 60°C	S= 55/45%	A = ± 1.0 ppm	10= ± 10 ppm	
	02= ± 2 ppm			C = -10°C TO 60°C		B = ± 1.5 ppm	15= ± 15 ppm	
	25= ± 2.5 ppm			H = -10 to 70°C		C = ± 2.0 ppm	20= ± 20 ppm	
	03 = ± 3 ppm			D = -20°C TO 70°C		D= ± 3.0 ppm	30= ± 30 ppm	
	04 = ± 4 ppm			E = -30°C TO 75°C		E = ± 4.0 ppm	40= ± 40 ppm	
	05 = ± 5 ppm			M = -40°C TO 85°C		F = ± 5.0 ppm	50= ± 50 ppm	

PART NUMBER EXAMPLE

BT16	02	T	33	A	S		15	10.0
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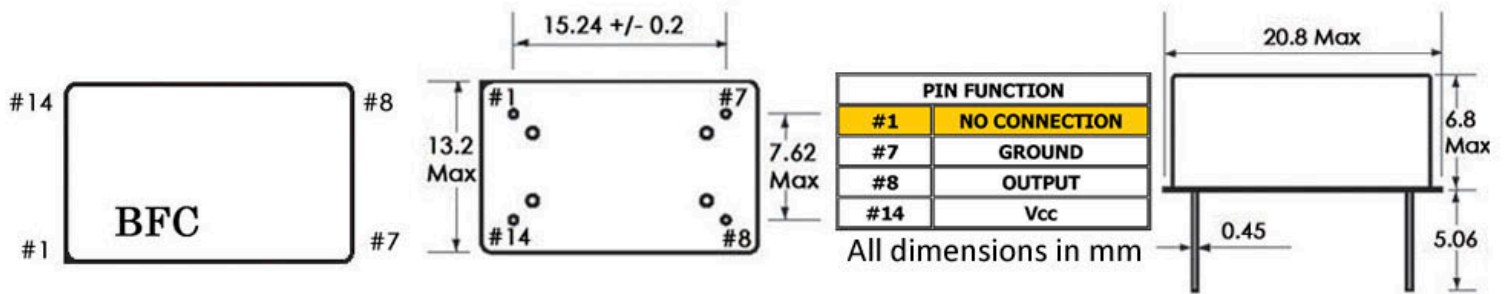


BT16xxT SERIES TCXO

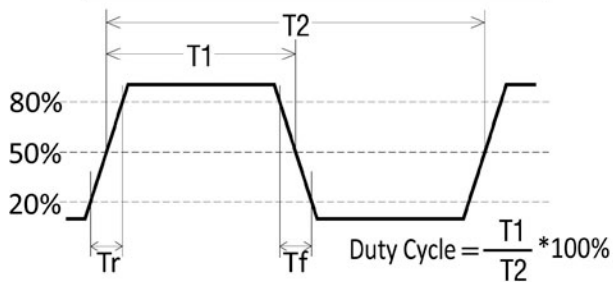
BROOKDALE FREQUENCY CONTROLS, INC.



PACKAGE DIMENSIONS



HCMOS OUTPUT WAVEFORM



HCMOS TEST CIRCUIT

