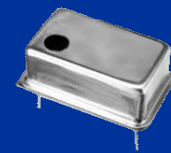




# BVTA16xxT SERIES VCTCXO

## BROOKDALE FREQUENCY CONTROLS, INC.



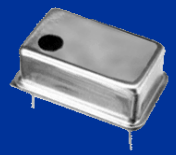
- DIL-14 THRU-HOLE PACKAGE VCTCXO
- HCMOS SQUARE WAVE OUTPUT
- **RoHS Compliant; Pb FREE**
- **REQUEST A CERTIFICATE OF COMPLIANCE**
- FREQUENCY ADJUSTMENT TRIMMER ( $\pm 3.0$  ppm)
- FREQUENCY STABILITY AS TIGHT AS  $\pm 1.0$  ppm
- -40 to +85°C Temperature Range Available
- **REQUEST A QUOTE ON THIS DEVICE**

BVTA16xxT VCTCXO SERIES									
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 Adjustment	$\pm 3.0$ ppm with internal trimmer								
Frequency Tolerance@25°C $\pm 2^\circ\text{C}$	$\pm 1.0$ ppm / $\pm 1.5$ ppm / $\pm 2.0$ ppm / $\pm 2.5$ ppm / $\pm 3.0$ ppm/ $\pm 4.0$ ppm/ $\pm 5.0$ ppm								
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								
Supply Voltage (Vcc)	5Vdc $\pm 5\%$				3.3Vdc $\pm 5\%$				
Control Voltage ( Vcon )	2.5Vdc $\pm 2.0\text{V}$				1.65Vdc $\pm 1.35\text{V}$				
Control Voltage Range	0.5 to 4.5V (Suffix "Blank")			0.3 to 3.0V (P/N Suffix "E")					
	0 to 5.0 V ( P/N Suffix "A")			0 to 3.3V ( P/N Suffix "G")					
	0.5 to 4.75V ( P/N Suffix "C")			0.5 to 2.5V ( P/N Suffix "F")					
	0.5 to 5.0V ( P/N Suffix "D")								
Pull Range	$\pm 5.0$ ppm / $\pm 10.0$ ppm / $\pm 15.0$ ppm / $\pm 20.0$ ppm / $\pm 30.0$ ppm / $\pm 40.0$ ppm / $\pm 50.0$ ppm								
Aging	$\pm 1.0$ ppm Max / Year								
Storage Temperature	-40 to 85°C								
SSB Phase Noise At 25°C	Offset	10 Hz	100Hz	1 kHz	10 kHz	100 kHz	1 MHz		
	3.3V-10.0MHz	98.4dBc/Hz	124.8dBc/Hz	145.3dBc/Hz	156.8dBc/Hz	159.4dBc/Hz	159.7dBc/Hz		
	3.3V146.2857MHz	48.7dBc/Hz	80.2dBc/Hz	106.7dBc/Hz	118.9dBc/Hz	139.8dBc/Hz	150.5dBc/Hz		
Frequency Stability (max)	$\pm 1.0$ ppm	$\pm 1.5$ ppm	$\pm 2.0$ ppm	$\pm 2.5$ ppm	$\pm 3.0$ ppm	$\pm 4.0$ ppm	$\pm 5.0$ 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		
MSL Level	MSL 1 per IPC/JEDEC-STD-020C								
Humidity	85% $\pm 3\%$ RH, 85°C, 168 Hours								
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								
BVTA16xxT SERIES VCTCXO PART NUMBER GUIDE									
MODEL	STABILITY	Output	Voltage	Vcon / (Vcon Range)	OPERATING TEMP(°C)	Symmetry	Freq. Tolerance @25°C $\pm 2^\circ\text{C}$	Pull Range	FREQ
BVTA16	01= $\pm 1$ ppm	T=HCMOS	5=5.0V	Blank=2.5V(0.5~4.5)	B =0~60°C	Blank=60/40%	Blank= $\pm 2.5$ ppm	05= $\pm 5$ ppm	
	15= $\pm 1.5$ ppm		33=3.3V	A=2.5V/(0.5~5.0V)	A =0~70°C	S= 55/45%	A = $\pm 1.0$ ppm	10= $\pm 10$ ppm	
	02 = $\pm 2$ ppm			C=2.5V/(0.5~4.75V)	C=-10~60°C		B = $\pm 1.5$ ppm	15= $\pm 15$ ppm	
	25= $\pm 2.5$ ppm			D=2.5V/(0.5~5.0V)	H=-10~70°C		C = $\pm 2.0$ ppm	20= $\pm 20$ ppm	
	30 = $\pm 3$ ppm			E=1.65V/(0.3 ~3.0V)	D=-20~70°C		D = $\pm 3.0$ ppm	30= $\pm 30$ ppm	
	40 = $\pm 4$ ppm			F =1.65V/(0 ~3.3V)	E =-30~75°C		E = $\pm 4.0$ ppm	40= $\pm 40$ ppm	
	50 = $\pm 5$ ppm			G=1.65V/(0.5~2.5V)	M=-40~ 85°C		F = $\pm 5.0$ ppm	50= $\pm 50$ ppm	
PART NUMBER EXAMPLE									
BVTA16	02	T	33	E	A	S		15	10.0

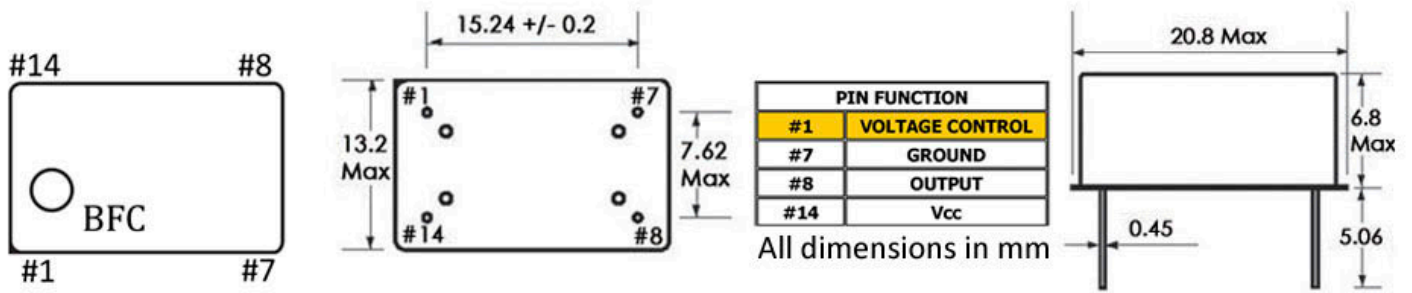


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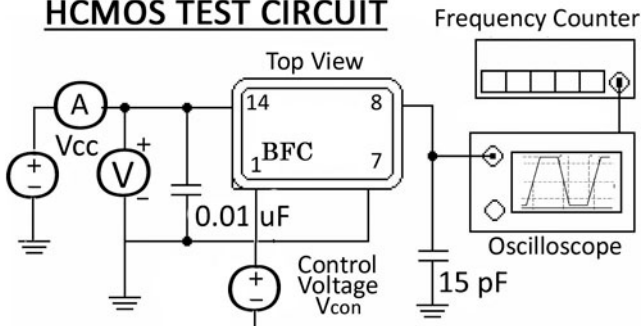
BROOKDALE FREQUENCY CONTROLS, INC.



## PACKAGE DIMENSIONS



## HCMOS TEST CIRCUIT



## HCMOS OUTPUT WAVEFORM

