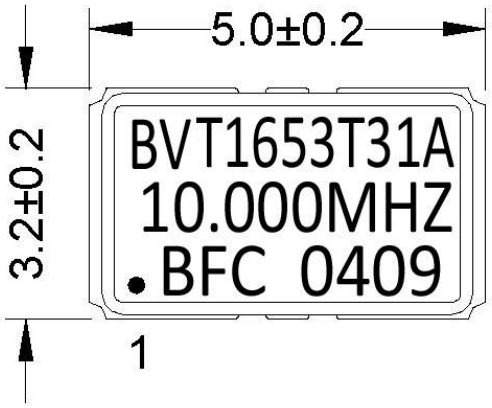
BVT1653T SERIES
HCMOS/TTL SMD VCTCXO

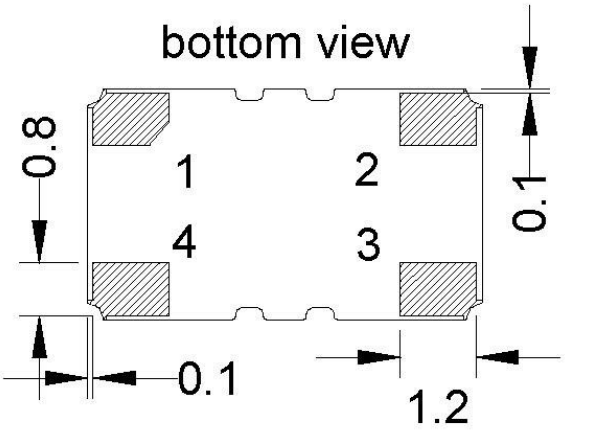
- 5.0 x 3.2 x 2.2 mm Ceramic SMD VCTCXOs
- HCMOS SQUARE WAVE OUTPUT
- NO MECHANICAL TRIMMER FOR AQUEOUS WASHING
- RoHS Compliant
- 0.01 uF DECOUPLING CAPACITOR BUILT-IN
- WIDE FREQUENCY RANGE: 1.0 MHZ TO 200.0 MHZ
- FREQUENCY STABILITY AS TIGHT AS ±0.5 PPM AVAILABLE
- -40 TO +85°C TEMPERATURE RANGE AVAILABLE

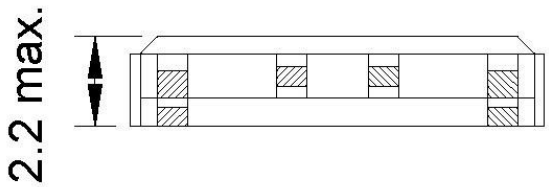
BVT1653T VCTCXO SERIES SPECIFICATION SHEET						
Frequency Range		1.0 MHz to 200.0 MHz				
Output Wave from		Square wave HCMOS				
Initial Calibration Tolerance (1)		± 2 ppm at +25°C ± 2°C and Vcon = +1.5VDC				
FREQUENCY STABILITY		± 0.5 ppm	± 1.0 ppm	± 1.5 ppm	± 2.0 ppm	± 2.5 ppm
TEMPERATURE RANGE	0°C to +50°C	AVAILABLE	AVAILABLE	AVAILABLE	AVAILABLE	AVAILABLE
	-10°C to +60°C	CALL US	AVAILABLE	AVAILABLE	AVAILABLE	AVAILABLE
	-20°C to +70°C	Not Available	AVAILABLE	AVAILABLE	AVAILABLE	AVAILABLE
	-30°C to +75°C	Not Available	AVAILABLE	AVAILABLE	AVAILABLE	AVAILABLE
	-40°C to +85°C	Not Available	AVAILABLE	AVAILABLE	AVAILABLE	AVAILABLE
FREQUENCY STABILITY	Vs. Aging	± 1.0 ppm max. first year at +25°C				
	Vs. Voltage Change	± 0.3 ppm max. for a ±5% input voltage change				
	Vs. Load Change	± 0.3 ppm max. for a ± 10% loading condition change				
	Vs. Reflow	± 1 ppm max. 1 reflow and measured 24 hours afterwards				
Supply Voltage(V_{DD})		+2.8VDC	+3.0VDC	+3.3VDC		
Current Consumption (typical)		2mA @ 8.192MHZ 4 mA @ 10 MHz 17 mA @77.760 MHz 35 mA @ 155.520 MHz				
Output Voltage Range	Logic High "1"	90% (V_{DD}) min.				
	Logic Low "0"	10% (V_{DD}) max.				
Electronic Frequency Tuning V_{con} (Pad #1)	Frequency Deviation Range	±10 ppm typical with Vcontrol centered at = +1.5 V and Vcontrol range of ±1.0 V				
	Slope Polarity	Positive: Positive voltage for positive frequency shift				
	Linearity	10 % max.				
Duty Cycle		50% ±10% measured @ 50% V_{DD}				
Rise Time and Fall Time		10 ns max. 20% ↔ 80% of waveform				
Start-Up Time.		10ms max.				
Output Load		15 pF				
SSB Phase Noise @ 25°C	Offset	10 Hz	100 Hz	1 kHz	10 kHz	100 kHz
	3.3V-100.0MHZ	-72dBc/Hz	-110dBc/Hz	-125dBc/Hz	-132dBc/Hz	-125dB/Hz
MSL Level		MSL 1 per IPC/JEDEC-STD-020C				
Humidity		85% RH, 85°C, 48 Hours *Crystal component only*				
Hermeticity		Leak rate $2x10^{-8}$ ATM-cm^3/sec max				
Solderability		MIL-STD-202F method 208E				
Vibration		MIL-STD-202F method 204, 35G, 50 to 2000Hz				
Shock		MIL-STD-202F method 213B, test conditions E, 1000GG 1/2sine wave				
Storage temperature range		-55 to +125°C				

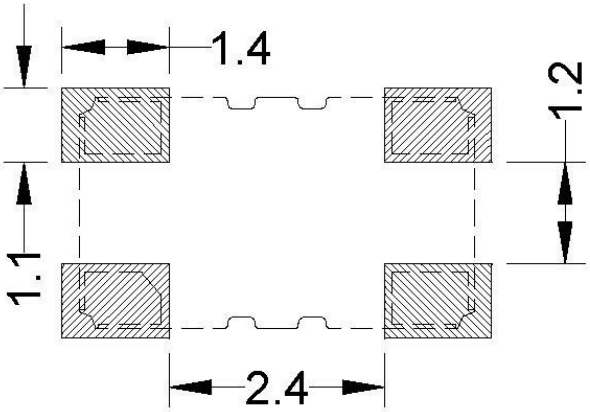
PART NUMBER GUIDE				
Model	Voltage	Stability	Operating Temperature (°C)	Frequency
BVT1653T	2 = 2.8V	5 = ± 0.5 ppm	A = 0°C to 50°C	
	3 = 3.0V	1 = ± 1 ppm	B = -10°C to 60°C	
	33 = 3.3V	15 = ± 1.5 ppm	C = -20°C to 70°C	
		2 = ± 2 ppm	D = -30°C to 75°C	
		25 = ± 2.5 ppm	M = -40°C to 85°C	
EXAMPLE				
BVT1653T	3	1	A	50.000 MHz

BVT1653T SERIES VCTCXO

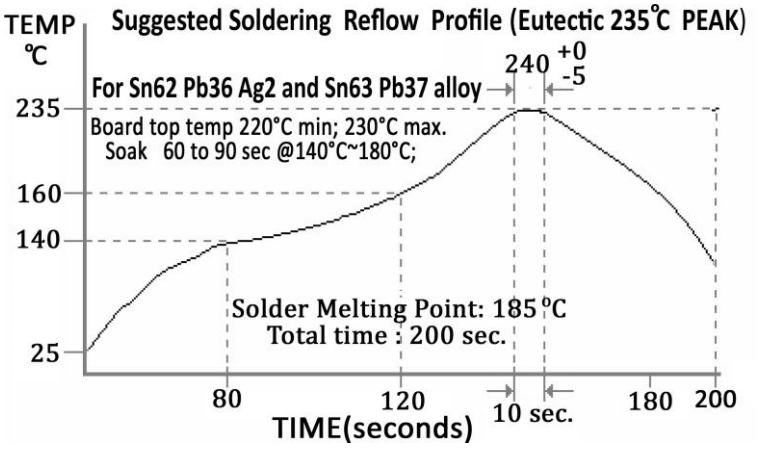


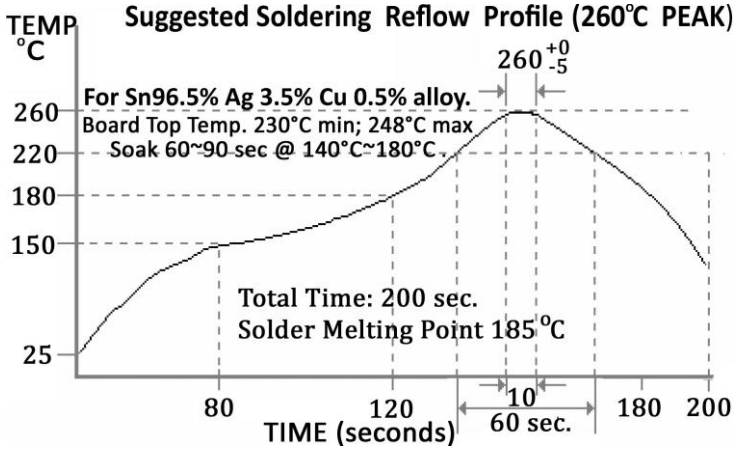


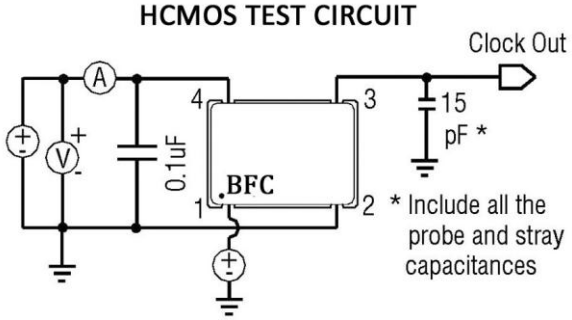


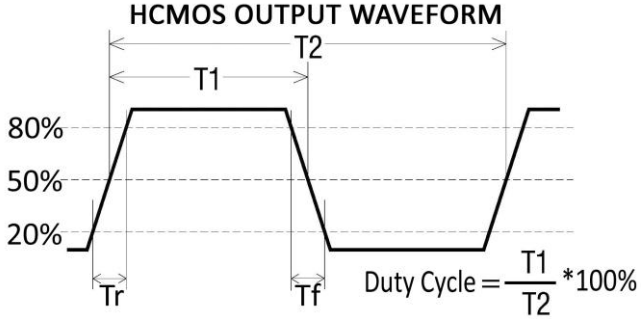


Pad 1	Voltage Control
Pad 2	Ground
Pad 3	Output
Pad 4	Supply Voltage









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