

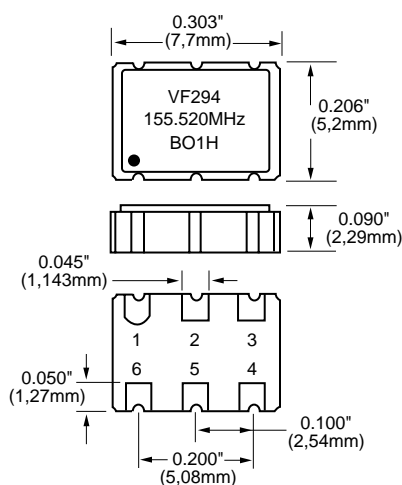
VF194/VF294 Series



HCMOS/TTL Hybrid VCXO Surface Mount Ceramic Package Tristate Output Standard

FEATURES

- Very Low Phase Jitter
- Industrial Temperature Range
- High Reliability
- Wide Frequency Range
- Miniature Package
- 3.3V supply available



All dimensions are typical unless otherwise specified.

Creating a Part Number

VF194/294 - - - FREQ.

FREQUENCY STABILITY	
Code	Specification
S	±20 ppm (std.)

DUTY CYCLE	
Code	Specification
H	±5% ±10% (std.)

INPUT VOLTAGE	
Code	Specification
L	3.3 Volt ±5% 5.0 Volt ±5% (std.)

ABSOLUTE PULL RANGE (ppm)	
Code	Specification
XXX	Specify Deviation MIN. (MAX. ±100 PPM)

OPERATIONAL TEMP. RANGE	
Code	Specification
1	0°C to +70°C (std.) -40°C to +85°C

Example: VF194-1-100-77.76MHz: Frequency Stability $\pm 25\text{ppm}$, Duty Cycle $\pm 10\%$, Input Voltage 5.0 Volt $\pm 5\%$, Operating Temperature -40°C to $+85^{\circ}\text{C}$, Absolute Pull Range (ppm) $\pm 100\text{min}$. Output Tristate Control Pin #5, Frequency 77.76MHz.

Notes:

1. Current is frequency and load dependent.
2. Tighter duty cycle available.
3. $\pm 100\text{ppm}$ available at some frequencies. $\pm 32\text{ppm}$ for some frequencies at 3.3V is the only option.
4. 0–5V control voltage available for V_{CC} 3.3V. Nominal control voltage is 2.5V and setability is $\pm 0.5\text{V}$ in this case.
5. For higher frequency Tr/Tf is shorter.

	Parameter	Symb	Condition	Min	Typ	Max	Unit	Note
Absolute Max. Ratings	Input Break Down Voltage	Vcc		−0.5		7.0	V	
	Storage Temp.	Ts		−55		+125	°C	
	Control Voltage	Vc		−1		9	V	
Electrical	Frequency Range	F		1.5		160	MHz	
	Frequency Stability	ΔF/F	vs. Temp., Vcc			±25	ppm	
	Input Voltage	Vcc		4.75 3.15	5.00 3.30	5.25 3.45	V	Standard LV Opt.
	Input Current	Icc	No load			30	mA	1
	Load	10 TTL gates or 50pF						
	Duty Cycle		@1.4V	40	50	60	%	2
	Rise/Fall Time	Tr/Tf	20% to 80% 0.4V to 2.4V			6 4	ns	5
	Logic “1” Level	Voh	Max Load	0.9Vcc			V	
	Logic “0” Level	Vol	Max Load			0.1Vcc	V	
	Start-up Time	Ts			2	10	ms	
	Phase Jitter		1σ, F<52 MHz 1σ, F>52 MHz			1 20	ps	fj>1KHz
	Modulation BW	fm	@Vc = 2.5V	10			KHz	@−3db
	Input Impedance		fm<10KHz	50			KOhm	
	Control Voltage	Vc	Vcc = 5.0V Vcc = 3.3V	0 0		5.0V 3.3V	V	4
	Absolute Pull Range	APR	Overall	±50			ppm	3
	Deviation Slope		Monotonic, positive		50		ppm/V	
	Linearity					±20	%	
	Setability (Vc for center freq)	Vc0	@25°C, Fnominal	2.00 1.25	2.50 1.65	3.00 2.05	V	Vcc = 5.0V Vcc = 3.3V
	Tristate Function	Input HIGH (>2.5V) or floating: Input LOW (<0.5V):					ACTIVE INFINITE IMPEDANCE	
Enable/ Disable Time					100	ns		
Environmental and Mechanical	Operating Temperature Range		0°C to +70°C (−40°C to +85°C available)					
	Mechanical Shock		Per MIL−STD−202, Method 213, Cond. E					
	Thermal Shock		Per MIL−STD−883, Method 1011, Cond. A					
	Vibration		Per MIL−STD−883, Method 2007, Cond. A					
	Soldering Conditions		230°C., for 90s, Max.					
	Hermetic Seal		Leak rate less than 5 x 10 ^{−8} atm.cc/s of helium					
Electrical Mechanics	Pin Out		Pin #1−Voltage Control Pin #3−Ground, Case Pin #5−Tristate (194), N/C (294) Pin #2−N/C (194) Tristate (294) Pin #4−Output Pin #6−Vcc					

All specifications are subject to change without notice.