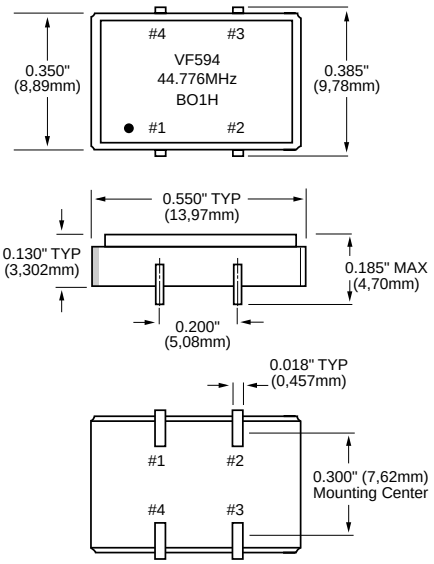
VF594

HCMOS/TTL Compatible
Surface Mount Ceramic Package

FEATURES

- Wide Frequency Range
- Very Low Phase Jitter at All Frequencies
- Wide Pullability (±1000ppm available at some frequencies)
- EMI Shielded
- Standard Footprint
- Wide Operating Temperature



All dimensions are typical unless otherwise specified.

Creating a Part Number

VF594 □□□-□-□-FREQ.

FREQUENCY STABILITY		
Code	Specification	
S	±20	ppm
	±25	ppm (std.)

ABSOLUTE PULL RANGE (ppm)	
Code	Specification
	±50 ppm (std.)
XXXX	up to ±1000 ppm

(customer to specify)

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

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

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

Example: VF594-77.76MHz: Frequency Stability ±25ppm, Duty Cycle ±10%, Input Voltage 5.0 Volt ±5%, Operating Temperature 0°C to +70°C, APR ±50ppm, Frequency 77.76MHz.

	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		+85	°C	
	Control Voltage	Vc		–1		9	V	
Electrical	Frequency Range	F		1.54		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	Std. LV Opt.
	Input Current	Icc	No Load		12		mA	@20MHz
	Load	10 TTL gates or 50pF MAX, AC coupled 50 Ohm termination recommended @ Freq. >54 MHz						
	Duty Cycle		@1.4V	40	50	60	%	1
	Rise/Fall Time	Tr/Tf	20% to 80%			6	ns	2
	Logic "1" Level	Voh	Max Load	0.9Vcc				
	Logic "0" Level	Vol	Max Load			0.1Vcc		
	Start–up Time	Ts			2	10	ms	
	Phase Jitter		1σ			1	ps	fj>1KHz
	Modulation BW		@Vc = 2.5V	10			KHz	@–3db
	Input Impedance		fm<10KHz	50			KOhm	
	Control Voltage	Vc	Vcc = 5.0V Vcc = 3.3V	0.0 0.0	2.50 1.65	5.00 3.30	V	3
	Deviation Slope		Monotonic, Positive		50 75		ppm/V	Vcc = 5.0V Vcc = 3.3V
	Absolute Pull Range	APR		±50			ppm	
	Linearity					±20	%	4
	Setability (Vc for center freq)	Vc0	@25°C, Fnom.	2.00 1.20	2.50 1.65	3.00 2.10	V	Vcc = 5.0V Vcc = 3.3V
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	260°C, for 10s, Max; 230°C, for 90s, Max.						
	Hermetic Seal	Leak rate less than 5 x 10^{-8} atm.cc/s of helium						
Electrical Connections	Pin Out	Pin #1–Voltage Control Pin #3–Output			Pin #2–Ground, Case Pin #4–Vcc			

Notes:
1. Tighter duty cycle available.
2. Frequency dependent. Shorter at higher frequencies
3. 0V to 5V control voltage available for Vcc 3.3V. Nominal Control Voltage is 2.5V and Setability is ±0.5V in this case.
4. 10% and 5% available.

All specifications are subject to change without notice.