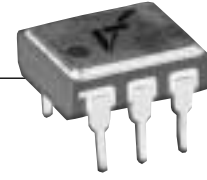


# VF946 Series

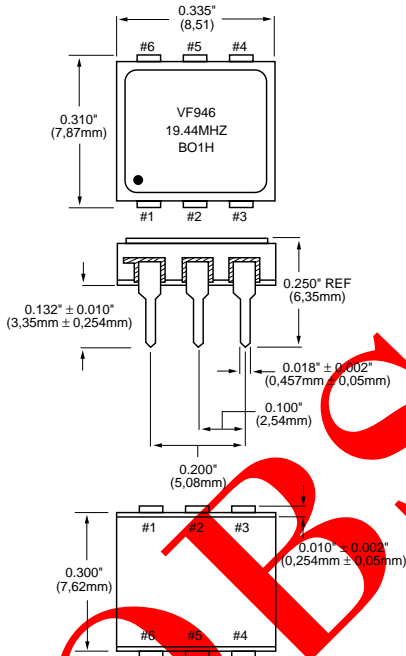
## HCMOS/TTL Compatible Tri-State Hybrid VCXO 6 Pin Ceramic Package



\*Not recommended for new designs

### FEATURES

- Tristate Output Standard
- Small 6 Pin DIP
- Compatible with the popular S-type VCXO
- Industrial Temperature Range Available
- Very Low Phase Jitter
- High Reliability
- Frequencies to 52 MHz



All dimensions are typical unless otherwise specified.

Creating a Part Number

**VF946** [ ] [ ] [ ] [ ] [ ] [ ] - **FREQ.**

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

ABSOLUTE PULL RANGE (ppm)	
Code	Specification
	±50 ppm (std.)
XXXX	up to ±100 ppm (customer to specify)

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

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

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

Example: VF946HL-1-75-44.736MHz; Frequency Stability ±25ppm, Duty Cycle ±5%, Input Voltage 3.3 Volt ±5%, Operating Temperature -40°C to +85°C, APR ±75ppm, Frequency 44.736MHz.

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	
Frequency Range	F		1.5		52	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			30	mA	1
Load			10 TTL gates or 50pF				
Duty Cycle		@1.4V	40	50	60	%	2
Rise/Fall Time	Tr/Tf	10% to 90% 0.4V to 2.4V			6 4	ns	
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			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	0.00 0.00	2.50 1.65	5.00 3.30	V	3
Absolute Pull Range (guaranteed capture range)		Overall, includes stability over temp.		±50		ppm	
Deviation Slope		Monotonic, posit.		50		ppm/V	4
Linearity					±20	%	
Setability (Vc for center freq)	Vc0	@25°C, Fnominal	2.00 1.25	2.50 1.65	3.00 2.05	V	Std LV opt.
Tristate Function		Input HIGH (>2.5V) or floating: ACTIVE Input LOW (<0.5V): 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	260°C, for 10s, Max.					
Hermetic Seal	Leak rate less than 5 x 10 <sup>-6</sup> atm.cc/s of helium						
Electrical Connections	Pin Out	Pin #1- Voltage Control Pin #3- Case, Ground Pin #5- N/C		Pin #2- Tristate Control Pin #4- Output Pin #6- Vcc			

Notes:

1. Frequency dependent.
2. Tighter duty cycle available.
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. Frequency dependent, 30 ppm at F>40MHz.
5. Surface mount available, see VF946G, VF946L.