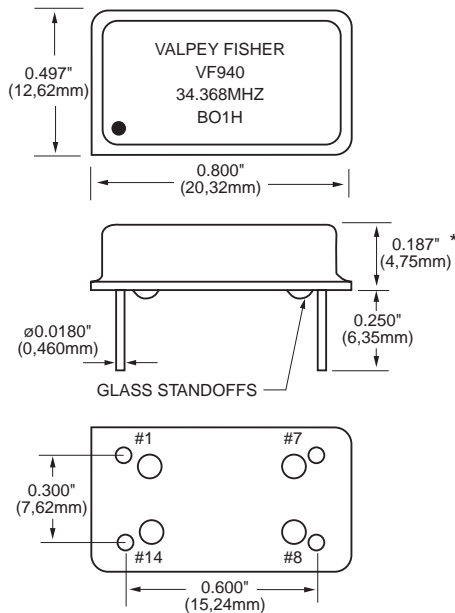


VF940

HCMOS/TTL Compatible
VCXO

FEATURES

- Fundamental Crystal Design
- Very Low Phase Jitter
- Extremely Wide Pulling Range available
- Low Cost



All dimensions are typical unless otherwise specified.
*Wide APR may require taller pkg.

Creating a Part Number

VF940 [] - [] - [] - **[FREQ.]**

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

DUTY CYCLE	
Code	Specification
H	50 ±5%
L	50 ±10% (std.)

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

ABSOLUTE PULL RANGE (ppm)	
Code	Specification
X	±50 ppm MIN. (std.)
XXXX	up to 1000 ppm MAX. (customer specified)

LEAD CONFIGURATION	
Code	Specification
G	Gull Wing Through Hole (std.)

OPERATIONAL TEMP. RANGE	
Code	Specification
1	-40°C to +85°C

Example: VF940SHL-1G-100-34.368MHZ: Frequency Stability ±20ppm, Duty Cycle ±5%, Input Voltage 3.3 Volt ±5%, Operating Temperature -40°C to +85°C, Gull Wing, APR ±100ppm, Frequency 34.368MHZ.

Parameter	Symb	Condition	Min	Typ	Max	Unit	Note
Absolute Max. Ratings	Input Break Down Voltage	Vcc	-0.5		7.0	V	
	Storage Temp.	Ts	-40		+85	°C	
	Control Voltage	Vc	-1		9	V	
Frequency Range	F		1.54		200	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		20		mA	@20MHz
Load	10 TTL gates or 50pF MAX, AC coupled 50 Ohm termination recommended for F>54MHz						
Duty Cycle		@1.4V	40	50	60	%	1
Rise/Fall Time	Tr/Tf	20% to 80%			6 3	ns	F<54MHz F>54MHz
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	fm	@Vc2.5V	10			KHz	@-3db
Input Impedance		fm<10KHz	50			KOhm	
Absolute Pull Range	APR	Overall	±50			ppm	2
Deviation Slope		Monotonic, positive		50 ±75		ppm/V	Vcc=5.0V Vcc=3.3V
Linearity					±20	%	3
Setability (Vc for center freq)	Vc0	@25°C, Fnom.	2.00 1.25	2.50 1.65	3.00 2.05	V	4 LV opt.

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.	
Electrical Connections	Hermetic Seal	Leak rate less than 5 x 10 ⁻⁸ atm.cc/s of helium	
	Pin Out	Pin #1-Voltage Control Pin #8-Output	Pin #7-Ground, Case Pin #14-Vcc

Notes:

1. ±5% symmetry available, contact factory for tighter requirements.
2. Up to ±1,000 ppm pull range available at some frequencies.
3. ±10% and ±5% linearity available.
4. 0 to 5V control voltage available for Vcc 3.3V. Nominal control voltage is 2.5V and setability is ±0.5V in this case.
5. For tristate option see VF940-T series.

All specifications are subject to change without notice.