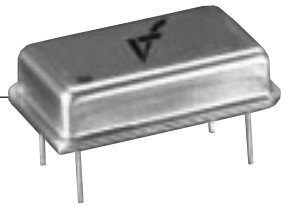
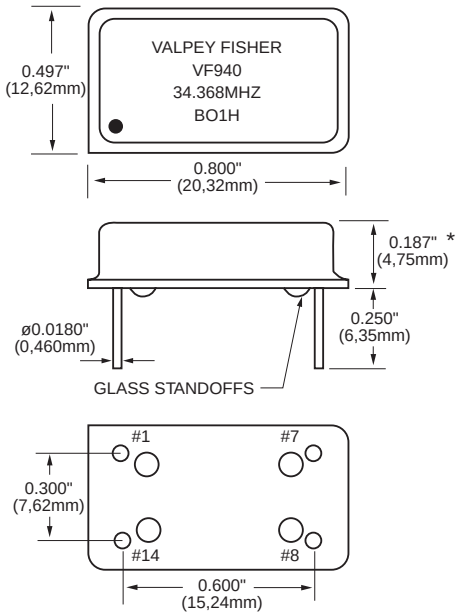
VF940



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
A	±25 ppm

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

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

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

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

OPERATIONAL TEMP. RANGE	
Code	Specification
	0°C to +70°C (std.)
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	
Electrical	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.						
	Hermetic Seal	Leak rate less than 5 x 10^{-8} atm.cc/s of helium						
Electrical Connections	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.

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