

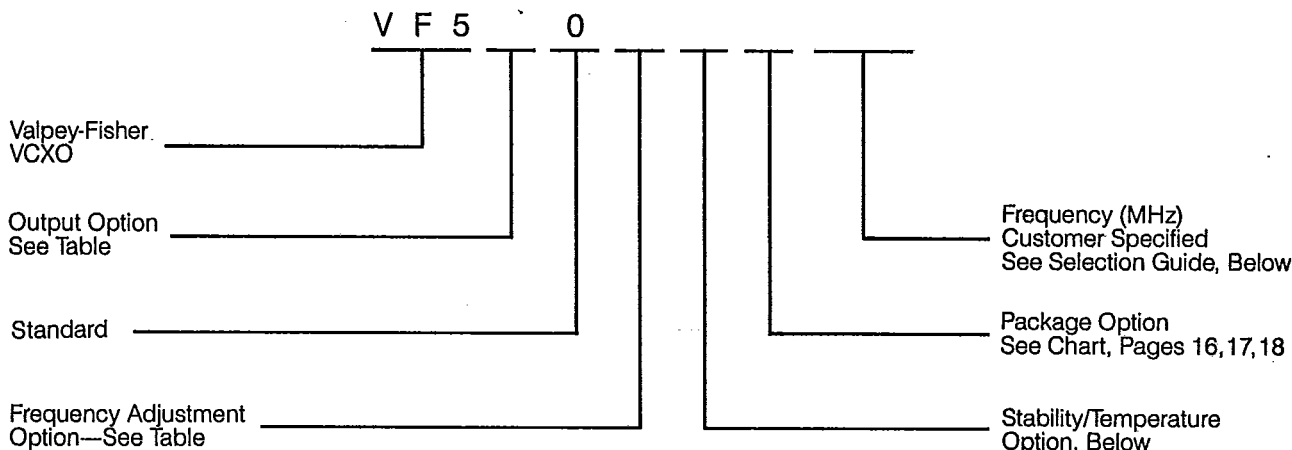
OSCILLATORS

**VF500 Series
DISCRETE TEMPERATURE
COMPENSATED CRYSTAL
OSCILLATORS (TCXO)**

Valpey-Fisher Temperature Compensated Crystal Oscillators (TCXOs) use select components which react to thermal changes in the environment to maintain frequency stability. Much tighter frequency stability is achievable using these designs than with the uncompensated hybrid clock

oscillators. Typical uses of VF500 oscillators include telecommunications, instrumentation, frequency standards and precision guidance systems. Enable/disable, tri-state logic and multiple frequency outputs, as well as electronic frequency adjustment, are also available.

VF500 Series (TCXO) Ordering Guide



EXAMPLE: TCXO Design, Sine Wave Output, 88.347966 MHz, 1.5" Square Package, $\pm 3 \times 10^{-6}$ Stability Over 0°C to +70°C Range, Mechanical Frequency Adjustment

ORDER: VF5401CD88.347966

VF500 Series (TCXO) Output Wave Form Options*

WAVE FORM	SINE	TTL	HCMOS
PART # DESIGNATOR	4	5	8

VF500 Series (TCXO) Selection Guide

PACKAGE OPTION ¹		OUTPUT OPTION ¹		FREQ. RANGE ²	STAB/TEMP OPTION ¹	INPUT VOLTAGE	ADJUST OPTION ¹
#	SIZE	#	FORM	(MHz)			
D	1.5" x	4	SINE	10-120	A-K	+15 VDC	0,1
	1.5" x	5	TTL	0.1-100			
	0.5"	8	HCMOS	0.1-30			
H	2.0" x	4	SINE	0.5-250	A-K	+15 VDC	0,1
	2.0" x	5	TTL	0.1-100			
	0.5"	8	HCMOS	0.1-30			
M	2.0" x 3.0" x 0.75"	4	SINE	100-1000	A-K	+15 VDC	0,1

*Consult factory for other options

Notes:

1 See appropriate option tables

2 Requires multiplication above 60 MHz. Subharmonics will be -20dBc max.

VF500 Series (TCXO) Stability/Temperature Options

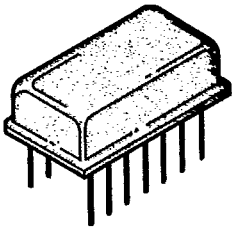
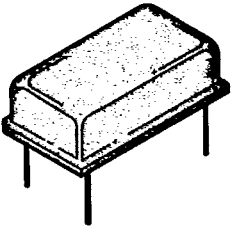
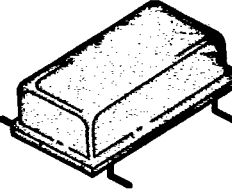
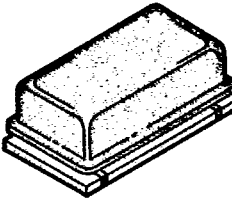
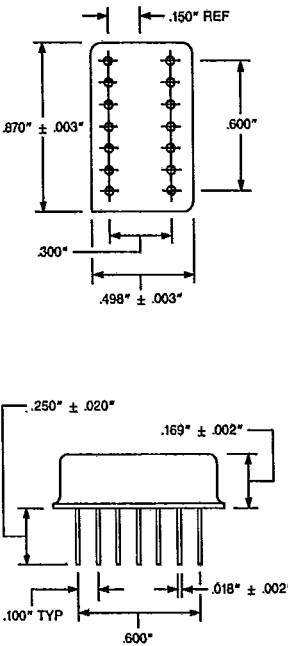
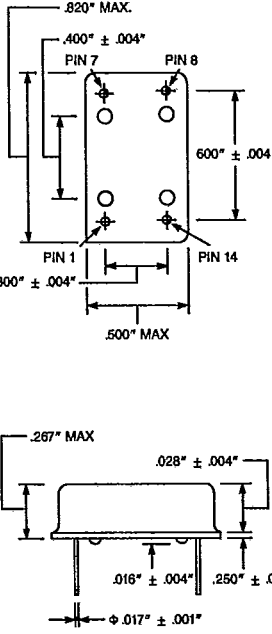
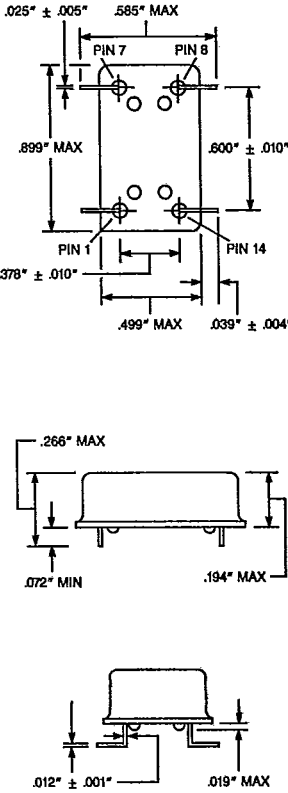
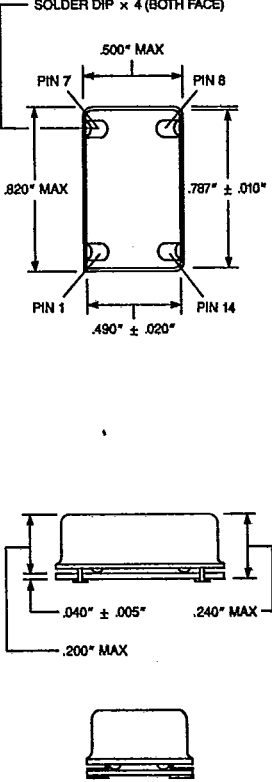
PART # DESIGNATOR	TEMPERATURE/STABILITY RANGE FREQ. STABILITY OVER TEMP RANGE	
A	$\pm 5 \times 10^{-7}$	15°C to 35°C
B	$\pm 1 \times 10^{-6}$	0°C to 50°C
C	$\pm 3 \times 10^{-6}$	0°C to 70°C
D	$\pm 5 \times 10^{-6}$	-20°C to 70°C
E	$\pm 1 \times 10^{-5}$	-40°C to 70°C
F	$\pm 2 \times 10^{-5}$	-55°C to 85°C
G	$\pm 5 \times 10^{-6}$	-55°C to 125°C
H	$\pm 1 \times 10^{-6}$	-30°C to 85°C
J	$\pm 1 \times 10^{-6}$	-55°C to 85°C
K	$\pm 5 \times 10^{-7}$	-20°C to 70°C

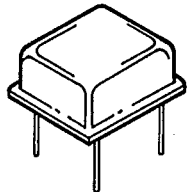
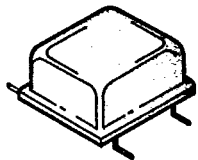

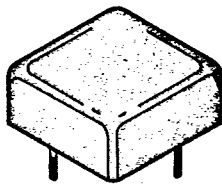
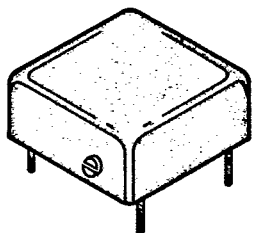
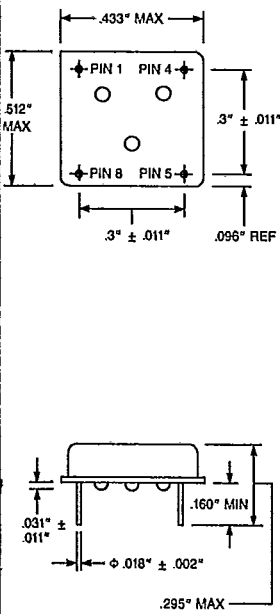
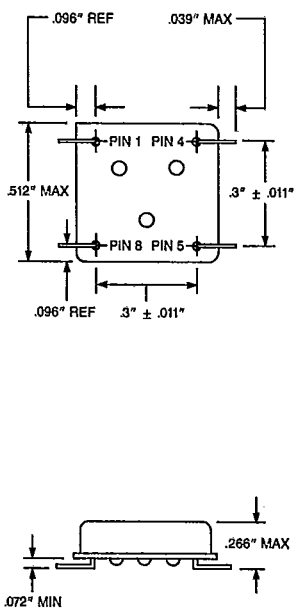
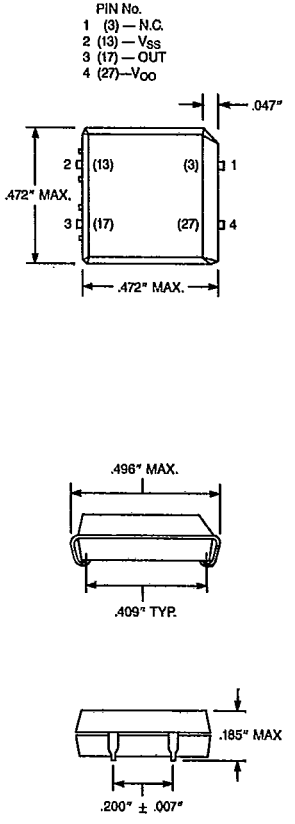
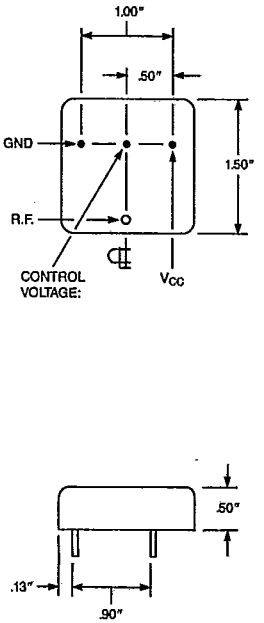
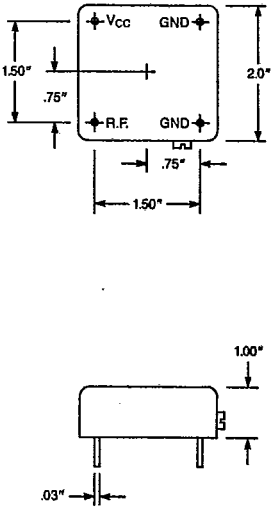
VF500 Series (TCXO) Frequency Adjustment Options

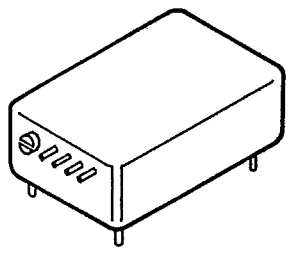
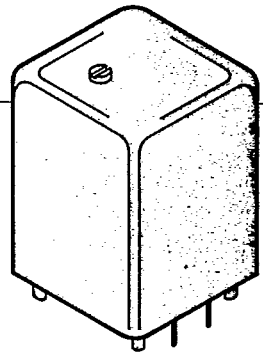
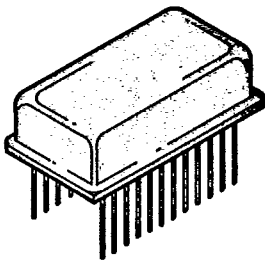
PART # DESIGNATOR	ADJUSTMENT METHOD
0	NONE
1	MECHANICAL
2	ELECTRICAL

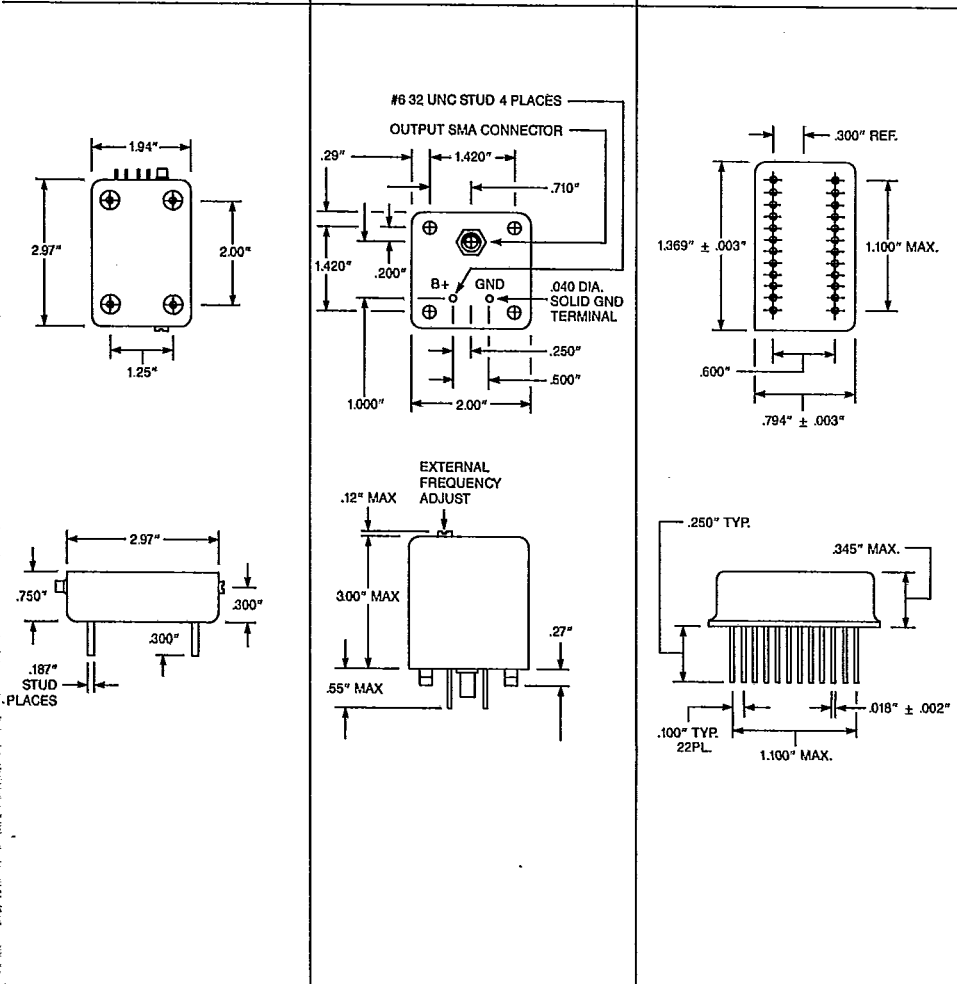
OSCILLATORS

OSCILLATOR
HOLDERS AND ENCLOSURES

				
<p>Package Description</p>	<p>14 pin DIP PTH, 14 pins loaded</p>	<p>14 pin DIP PTH, 4 pins loaded</p>	<p>14 pin DIP SMT, 4 leads, Gullwing</p>	<p>14 pin DIP SMT, 4 pads on substrate</p>
<p>Package Designation</p>	<p>Special, consult factory</p>	<p>Standard</p>	<p>G</p>	<p>L</p>
<p>Construction</p>	<p>Metal, Resistance Weld</p>	<p>Metal, Resistance Weld</p>	<p>Metal, Resistance Weld</p>	<p>Metal, Resistance Weld</p>
<p>Logic or Oscillator Series</p>	<p>VF150 (TTL) VF160 (ECL) VF170 (CMOS) VFHS170 (HCMOS) VF600 (VCXO)</p>	<p>VF150 (TTL) VF160 (ECL) VF170 (CMOS) VFHS170 (HCMOS) VF600 (VCXO)</p>	<p>VF150 (TTL) VF160 (ECL) VF170 (CMOS) VFHS170 (HCMOS) VF600 (VCXO)</p>	<p>VF150 (TTL) VF160 (ECL) VF170 (CMOS) VFHS170 (HCMOS)</p>
<p>Package Dimensions Type Available in this Package</p>				

				
<p>1/2 size DIP PTH, 4 pins loaded</p>	<p>1/2 size DIP SMT, 4 leads Gullwing</p>	<p>28 pin PLCC, SMT, 4 "J" leads</p>	<p>1.5" x 1.5" stamped, PTH 4 pins</p>	<p>2.0" x 2.0" stamped, PTH 4 pins</p>
<p>84, 85</p>	<p>SM</p>	<p>PSM</p>	<p>D</p>	<p>H</p>
<p>Metal, Resistance Weld</p>	<p>Metal, Resistance Weld</p>	<p>Plastic, Molded</p>	<p>Metal, Solder Seal</p>	<p>Metal, Solder Seal</p>
<p>VF75 (TTL) VF84 (CMOS) VFHS85 (HCMOS)</p>	<p>VF75 (TTL) VF84 (CMOS) VFHS85 (HCMOS)</p>	<p>VF500 (TCXO) VF600 (VCXO)</p>	<p>VF500 (TCXO) VF600 (VCXO)</p>	<p>VF500 (TCXO) VF600 (VCXO)</p>
		<p>PIN No. 1 (3) - N.C. 2 (13) - V_{SS} 3 (17) - OUT 4 (27) - V_{CC}</p> 		

		
2.0" x 3.0" stamped, PTH, 4 pins + SMT connector	2.0" x 2.0" x 3.0" ht, PTH, 4 studs, 2 pins, SMA connector	24 pin DIP, PTH, 4 to 24 pins loaded
M	R	U
Metal, Solder Seal	Metal, Solder Seal	Metal, Resistance Weld
VF500 (TCXO) VF600 (VCXO)	VF800 (OCXO)	VF500 (TCXO) VF600 (VCXO)



Valpey-Fisher Hybrid Oscillator Options

SERIES/OPTION	Tighter Symmetry	Half Size	Plastic Package	Double and Triple Outputs	Enable/Disable Function	Tristate Output
VF75 (TTL)	✓	✓			✓	✓
VF84 (HCMOS)	✓	✓			✓	✓
VF85 (HCMOS)	✓	✓			✓	✓
VF150 (TTL)	✓			✓	✓	✓
VF160 (ECL)					✓	
VF160R (ECL)					✓	
VF161 (ECL)					✓	
VF161R (ECL)					✓	
VF170 (CMOS)	✓					
VFHS170 (HCMOS)	✓			✓	✓	
VFHS170P (HCMOS)	✓		✓			

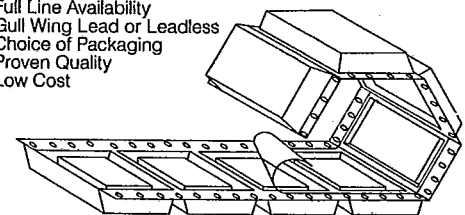
Valpey-Fisher Surface Mount Hybrid Clock Oscillators

Valpey-Fisher oscillators are available in surface mount packages, giving you the many benefits of surface mount technology while continuing Valpey-Fisher's tradition of quality, service and economy. Surface mount oscillators meet the needs of almost every circuit design, allowing reduction in printed circuit board layers and increase in component density. Further benefits can include reduced labor content and cost, increased system reliability, more easily automated assembly and testing, and increased circuit speed due to shorter circuit runs.

Surface mount oscillators from Valpey-Fisher are available in gull wing leaded or leadless design and are suitable for any surface mount soldering technique, including wave, vapor phase, and infrared reflow. Package options include pocket tape and reel and static-free tubes.

Features

- Full Line Availability
- Gull Wing Lead or Leadless
- Choice of Packaging
- Proven Quality
- Low Cost



POCKET TAPE AND REEL



STATIC FREE TUBE