

## OSCILLATORS

VF160 Series ECL HYBRID  
CRYSTAL CLOCK OSCILLATORS

Valpey-Fisher VF160 hybrid oscillators are compatible with ECL circuitry and offer a proven frequency source for use in today's high speed logic circuits. The VF160's advanced design allows higher frequency output than the VF150, making the series ideal for use in applications such as high

resolution graphics terminals, higher frequency communication equipment, and the growing number of very high clock rate microcomputers. The advanced VF160 series is also available with dual and triple outputs and enable/disable function.

Package options include traditional full size or new half size plated-through-hole designs as well as surface mount, both full and half size, with either leads or pads for soldering. Tape and reel is also available to facilitate automatic insertion or pick-and-place assembly equipment.

## VF 160 Series ECL Hybrid Crystal Clock Oscillators

Specifications	VF 160	VF 160R	VF 161	VF 161R
INPUT VOLTAGE	Pin 7: -5.2 VDC $\pm$ 5% Pin 14: Case & GND	Pin 7: Case & GND Pin 14: 5.2 VDC $\pm$ 5%	Pin 7: Case & GND Pin 14: +5.2 VDC $\pm$ 5%	Pin 7: +5.2 VDC $\pm$ 5% Pin 14: Case & GND
OUTPUT	Complementary 10K series ECL at Pins 1 & 8, no pull down resistors (ie open emitter). Output levels when loaded with 50 $\Omega$ to -2.0 VDC and 5.20 VDC: Logic High*: -0.81 VDC max -0.96 VDC min Logic Low*: -1.65 VDC max -1.85 VDC min	Complementary 10K series ECL at Pins 1 & 8, no pull down resistors (ie open emitter). Output levels when loaded with 50 $\Omega$ to +3.2 VDC and 5.20 VDC: Logic High*: +4.39 VDC max +4.24 VDC min Logic Low*: +3.55 VDC max +3.35 VDC min	Complementary 10K series ECL at Pins 1 & 8, no pull down resistors (ie open emitter). Output levels when loaded with 50 $\Omega$ to +3.2 VDC and 5.20 VDC: Logic High*: +4.39 VDC max +4.24 VDC min Logic Low*: +3.55 VDC max +3.35 VDC min	Complementary 10K series ECL at Pins 1 & 8, no pull down resistors (ie open emitter). Output levels when loaded with 50 $\Omega$ to +3.2 VDC and 5.20 VDC: Logic High*: +4.39 VDC max +4.24 VDC min Logic Low*: +3.55 VDC max +3.35 VDC min
INPUT CURRENT	60 mA max, unloaded			
STORAGE TEMPERATURE	-55°C to 125°C			
PACKAGE	See Oscillator Package Chart, pages 16, 17 and 18.			

\*Output levels are dependent upon supply voltage.

In addition to specifying the *frequency*, use the Valpey-Fisher part number in the chart below to designate the exact *frequency range*, *stability*, and *operating temperature* you require:

Frequency Range (MHz)	Stability (%)	Operating Temperature Range (°C)		
		0 to +70	-40 to +85	-55 to +125
50 to 200	0.0025	VF160A	VF160A-1	VF160A-2*
	0.005	VF160B	VF160B-1	VF160B-2
	0.01	VF160	VF160-1	VF160-2
	0.05	VF160C	VF160C-1	VF160C-2
	0.25	VF160D	VF160D-1	VF160D-2

\* -55 to +105°C