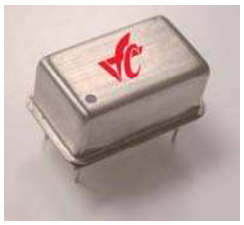
VFOV600
Miniature OCXO
DIL-14, HCMOS/TTL

Valpey Fisher Corporation
High Frequency, Low Phase Noise Timing Solutions

Features

- Low Cost Dual-In-Line 14 pin package
- Low Power Consumption
- Fast Warm-up Time
- Stratum 3 or better Stability
- Very Low Phase Noise (-160dBc/Hz TYP)
- HCMOS/TTL output
- 10 MHz to 100 MHz Frequencies Available
- Voltage Control Standard



RoHS Status

RoHS 6/6

Applications

- Telecommunications
- Data Communications
- Instrumentation

Electrical Specifications

Parameter	Symbol	Condition	Min	Typ	Max	Unit	Note
Frequency Range	F		10.0		100.0	MHz	
Frequency Stability	ΔF/F	Vs. Operating Temperature		±100	± 500	ppb	See "How to Order" Chart
		Vs. Supply Voltage		10	50	ppb	
		per day first year 15 years		5E-9 1E-6	 4E-6		after 30 days
Operating Temperature Range	T		-20°		+70°	°C	See "How to Order" Chart for Available Options
SSB Phase Noise		10 Hz 100 Hz 10 KHz		-90 -120 -160		dBc/Hz	Performance dependent on frequency
Supply Current	Icc	steady state, 25°C steady state, -20°C start-up current		100 200 400	120	mA	5.0V supply Still air
		steady state, 25°C steady state, -20°C start-up current		150 300 500	180		3.3V supply Still air
Supply Voltage	Vcc		4.75 3.14	5.0 3.3	5.25 3.46	V	

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Electrical Specifications

Parameter	Symbol	Condition	Min	Typ	Max	Unit	Note
Output Waveform/Load		HCMOS/TTL Compatible Square Wave	10KOhm//15pF				
Symmetry			45		55	%	
Rise/Fall Time	Tr, Tf	10KOhm // 15pf load		1.2		ns	
Control voltage	Vc		0 0		4.0 3.3	V	5.0V Supply 3.3V Supply
Pull range		from nominal F	±5			ppm	
Warm-up time	τ	to 0.3 ppm of 30 minute frequency			2	min	at +25°C

Absolute Maximum Ratings

Parameter	Symbol	Condition	Min	Typ	Max	Unit	Note
Supply Break Down Voltage	Vcc		-0.5 -0.5		4.0 6.0	V	3.3V Supply 5.0V Supply
Storage Temperature	Ts		-40		100	°C	
Control Voltage	Vc		-1		6	V	

Environmental and Mechanical

Parameter	Specification
Mechanical Shock	Per MIL-STD-202, 30G, 11ms
Vibration	Per MIL-STD-202, 5G to 2000 Hz
Soldering Conditions	450° Soldering iron for 8s max
Hermetic Seal	Leak rate less than 1x10-8 atm.ccm/s of helium

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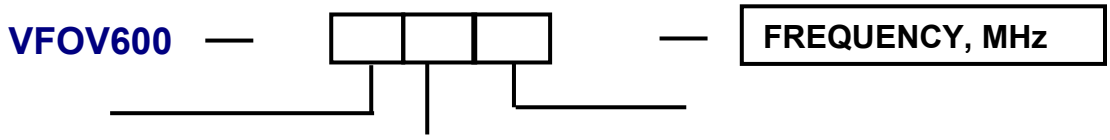
How to Order



Temperature Stability

Code	Specification
L	$5x10^{-7}$
M	$3x10^{-7}$
28	$2.8x10^{-7}$
N	$2.5x10^{-7}$
Q	$1.5x10^{-7}$
R	$1x10^{-7}$

Temperature Range

Code	Specification
A	0°C to 50°C
B	0°C to 70°C
C	-10°C to 60°C
D	-20°C to 70°C

Supply Voltage

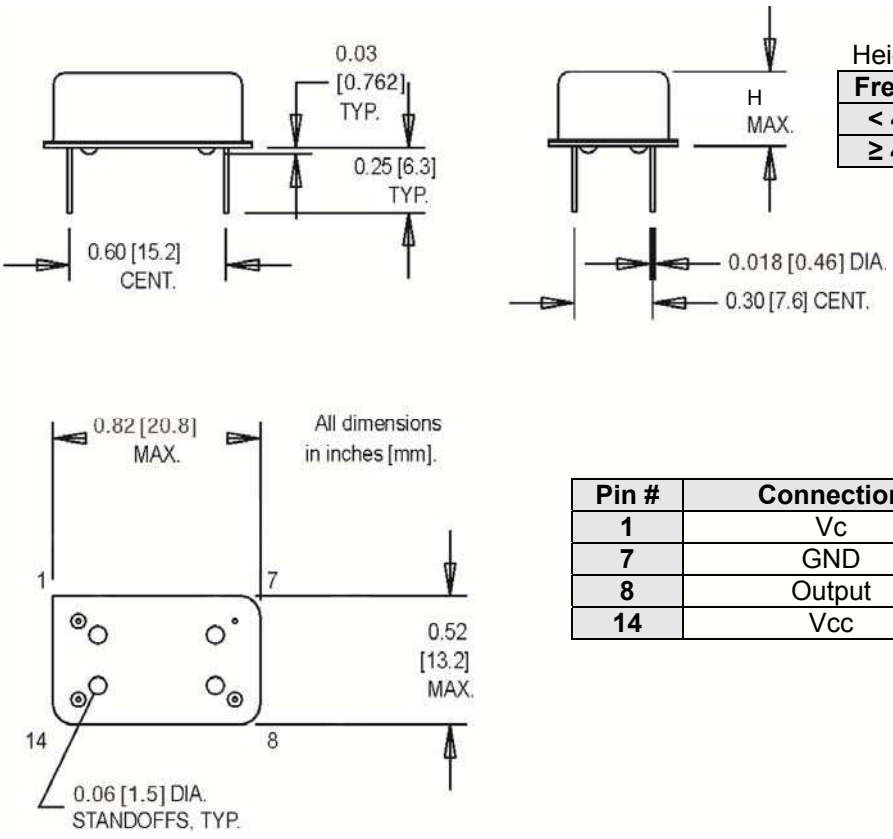
Code	Specification
D	5.0V ± 5%
E	3.3V ± 5%

Available Frequency Stabilities over Operating Temperature Ranges

Order Code	Temperature Range	Stability					
		$5x10^{-7}$	$3x10^{-7}$	$2.8x10^{-7}$	$2.5x10^{-7}$	$1.5 x10^{-7}$	$1x10^{-7}$
A	0°C to 50°C	*	*	*	*	*	*
B	0°C to 70°C	*	*	*	*	*	◊
C	-10°C to 60°C	*	*	*	*	*	◊
D	-20°C to 70°C	*	*	*	*	◊	◊

*Available
◊ Consult factory for availability

Outline Drawing



Height (H)

Frequency	H(mm)
< 40MHz	10
≥ 40MHz	8.7

Pin #	Connection
1	Vc
7	GND
8	Output
14	Vcc