VFVX130
VCXO Low Jitter
9x14mm SMD, CMOS/TTL

Valpey Fisher Corporation
High Frequency, Low Phase Noise Timing Solutions

Features

- 19 MHz to 200 MHz Frequency Range
- Ultra Low Jitter and Phase Noise

RoHS Status

RoHS 6/6

Applications

- Optical Networking, SONET / SDH
- 10 Gigabit Ethernet
- Broadband Access

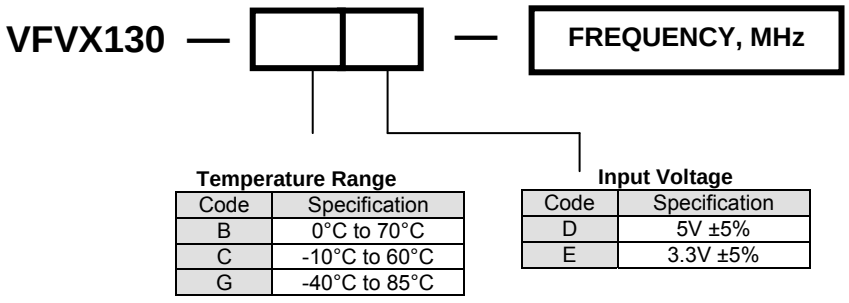
Electrical Specifications

Parameter	Symbol	Condition	Min	Typ	Max	Unit	Note
Frequency Range	F		19		200	MHz	
Frequency Stability	ΔF/F	Vs. Operating Temperature B: 0°C to +70°C C: -10°C to +60°C G: -40°C to +85°C		± 10 ± 12 ± 18	± 20 ± 20 ± 30	ppm	
		Vs. Supply Voltage Vs. Aging / Year		± 3 ± 1		ppm/V ppm	First Year
Operating Temperature Range	T		0° -10° -40°		+70° +60° +85°	°C	*Order Code B* *Order Code C* *Order Code G*
Output		Signal	CMOS / TTL				
Supply Voltage	Vcc		4.75 3.15	5.00 3.30	5.25 3.45	V	*Order Code D* *Order Code E*
Voltage Control	Vc		0 0		5 3.3	V	Vcc = 5.0V Vcc = 3.3V
Input Impedance		*Fm < 10Khz*	>50KΩ				
K_{VCO}		*@25℃*		35		ppm/V	
APR		*Overall*	±35			ppm	Consult factory for wider APR
Deviation slope		*Monotonic positive*					
Linearity			-10		+10	%	
Modulation BW			>10KHz				3dB BW
Supply Current	Icc	No Load			50	mA	@155MHz

Electrical Specifications

Parameter	Symbol	Condition	Min	Typ	Max	Unit	Note
Duty Cycle		@ 50%	45	50	55	%	
Rise / Fall Time	Tr/Tf	20% to 80%		3.0		ns	
Logic "1" Level	Voh			3.2 4.5		V	Vcc = 3.3V Vcc = 5.0V
Logic "0" Level	Vol			0		V	
Start up time				2	10	ms	
Phase Jitter		1σ		0.2	0.5	ps	
SSB Phase Noise		100Hz 1KHz 10KHz 100KHz		-105 -130 -150 -160		dBc/Hz	@ 100MHz
Subharmonics				-50	-40	dBc	
Enable / Disable Function	Logic High (> 2.0 V) or Floating: Output is Active Logic Low (< .5 V): Output = High Z						
Enable / Disable Time	Te/Td				100	ns	

How to Order



Temperature Range

Code	Specification
B	0°C to 70°C
C	-10°C to 60°C
G	-40°C to 85°C

Input Voltage

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

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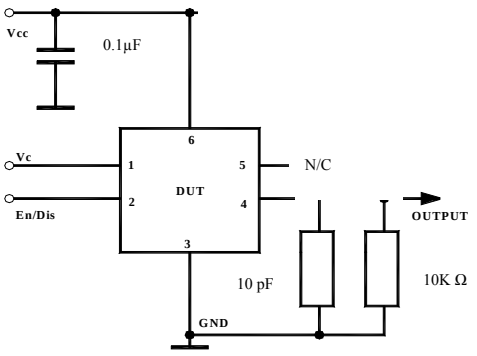
Absolute Maximum Ratings

Parameter	Symbol	Condition	Min	Typ	Max	Unit	Note
Supply Break Down Voltage	Vcc		-0.5		6.0	V	
Storage Temperature	Ts		-55		+85	°C	
Control Voltage	Vc		-1		7	V	

Environmental and Mechanical

Parameter	Specification
Mechanical Shock	Per MIL-STD-202, Method 213, Condition E
Thermal Shock	Per MIL-STD-883, Method 1011, Condition A
Vibration	Per MIL-STD-883, Method 2007, Condition A
Soldering Conditions	260°C for 10s max
Hermetic Seal	Leak rate less than $5x10^{-8}$ atm.cc/s of helium (crystal only)



Pin #	Connection
1	Vc
2	Negative Enable
3	Case, GND
4	Output
5	N/C
6	Vcc