

VF194/VF294

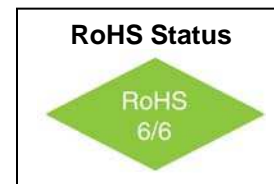
VCXO Low Jitter 3.3V

5x7mm SMD, HCMOS/TTL



Features

- TRISTATE
- 1.5MHz to 77.76MHz Frequency Range
- <1.0ps RMS Jitter over 12KHz to 20MHz
- APR min ± 50 ppm



Applications

- Standard and High Definition Video
- 10 Gbit Ethernet
- Optical Networking

Electrical Specifications

Parameter	Symbol	Condition	Min	Typ	Max	Unit	Note
Frequency Range	F		1.5		160.00	MHz	
Frequency Stability	$\Delta F/F$	Vs. Operating Temperature			± 25	ppm	
Operating Temperature	T		0° -40°		+70° +85°	°C	Order Code 1
Supply Voltage	Vcc		4.75 3.15	5.00 3.30	5.25 3.45	V	Standard LV Opt.
Supply Current	Icc	No load			30	mA	
Voltage Control	Vc	Vcc = 5.0V Vcc = 3.3V	0 0		5.0 3.3	V	
APR			± 50			ppm	
Jitter RMS 12KHz to 20MHz	1σ			<1.0		ps	
Input Impedance		fm<10KHz	50			KOhm	
Phase Noise		100 Hz 1 KHz 10 KHz 100 KHz 1 MHz		-95 -125 -147 -155 -155	-90 -120 -142 -150 -150		@ 40.96 MHz
Start-up Time	Ts			2	10	ms	
Enable/Disable Time					100	ns	
Duty Cycle		@1.4V	40 45	50 50	60 55	%	5% optional



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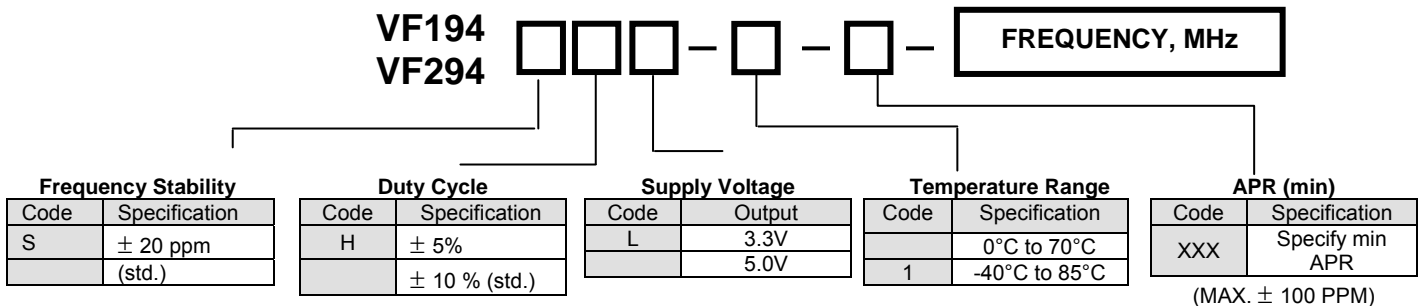
Electrical Specifications

Parameter	Symbol	Condition	Min	Typ	Max	Unit	Note
Modulation BW	fm	@Vc = 2.5V	10			KHz	@-3db
Deviation Slope		Monotonic, positive		50		ppm/V	
Linearity					± 20	%	
Setability (Vc for center freq)	Vc0	@25°C, Fnominal	2.00 1.25	2.50 1.65	3.00 2.05	V	5.0V 3.3V
Load	10 TTL gates or 50pF						
Output High Voltage	V _{OH}	Max Load	0.9V _{cc}			V	
Output Low Voltage	V _{OL}	Max Load			0.1V _{cc}	V	
Rise/Fall Time	Tr/Tf	20% to 80% 0.4V to 2.4V			6 4	ns	
Tristate	Input HIGH (>2.5V) or floating: Input LOW (<0.5V):		ACTIVE INFINITE IMPEDANCE				

Absolute Maximum Ratings

Parameter	Symbol	Condition	Min	Typ	Max	Unit	Note
Lead Temperature		Soldering, 90s max			+230°	°C	
Storage Temperature	T _s		-55		+125°	°C	
Supply Voltage	V _c		-1		9	V	

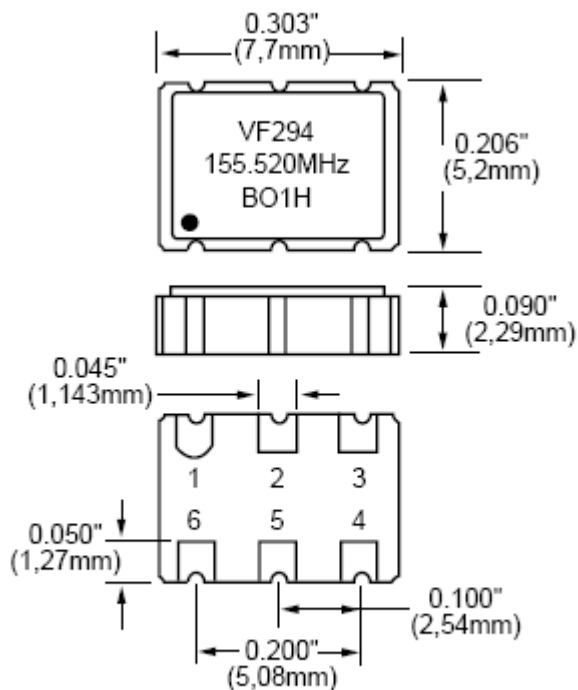
How to Order



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Environmental and Mechanical Conditions

Parameter	Specification
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
Hermetic Seal	Leak rate less than 5×10^{-8} atm.cc/s of helium



All dimensions are typical unless otherwise specified.

VF194 Pin Connections

Pin #	Connections
1	Vc
2	N/C
3	Ground, Case
4	Output
5	Tristate
6	Vcc

VF294 Pin Connections

Pin #	Connections
1	Vc
2	Tristate
3	Ground, Case
4	Output
5	N/C
6	Vcc