VF594
VCXO Low Jitter 3.3V, 5.0V
9x14mm SMD, CMOS

Features

- 1.54MHz to 160MHz Frequency Range
- <0.5ps RMS Jitter over 12KHz to 20MHz
- APR to ± 50ppm

RoHS Status

RoHS 6/6

Applications

- 3.3V or 5V applications
- 10 Gigabit Ethernet
- Broadband Access

Electrical Specifications

Parameter	Symbol	Condition	Min	Typ	Max	Unit	Note
Frequency Range	F		1.54		160	MHz	
Frequency Stability	ΔF/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		12		mA	*@20MHz*
Voltage Control	Vc	Vcc = 5.0V Vcc =3.3V	0 0		5.0 3.3	V	*3*
APR			± 50			ppm	
Integrated Jitter RMS **12KHz to 20MHz**				<0.5		ps	
Input Impedance		fm<10KHz	50			KOhm	
Start-up Time	Ts			2	10	ms	
Duty Cycle		@1.4V	40	50	60	%	1

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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 70		ppm/V	5.0V 3.3V
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 MAX, AC coupled 50 Ohm termination recommended @ Freq. >54MHz						
Output High Voltage	V_{OH}	Max Load	0.9Vcc			V	
Output Low Voltage	V_{OL}	Max Load			0.1Vcc	V	
Rise/Fall Time	Tr/Tf	20% to 80%			6	ns	2

Absolute Maximum Ratings

Parameter	Symbol	Condition	Min	Typ	Max	Unit	Note
Lead Temperature		Soldering, 10s max			+260°	°C	
Storage Temperature	Ts		-55		+85°	°C	
Supply Voltage	Vc		-1		9	V	

How to Order

VF594 — □□□ — □ — □ — FREQUENCY, MHz

Frequency Stability

Code	Specification
S	± 20 ppm
	± 25 ppm (std.)

Duty Cycle

Code	Specification
H	± 5%
	± 10 % (std.)

Supply Voltage

Code	Output
L	3.3V
	2.5V

Temperature Range

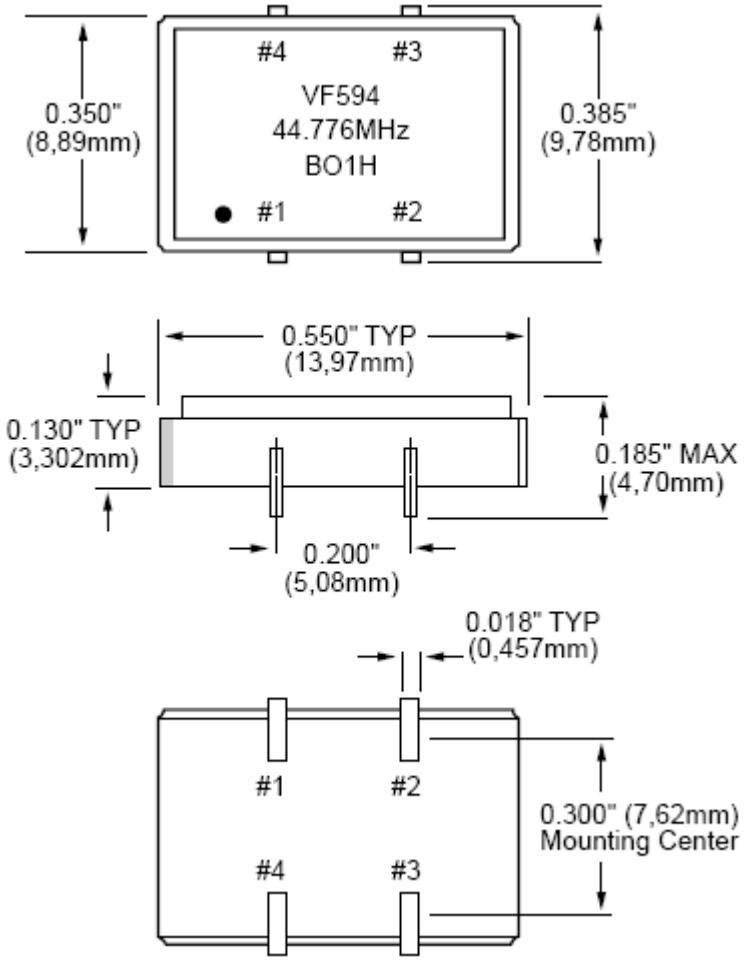
Code	Specification
	0°C to 70°C
1	-40°C to 85°C

APR (ppm)

Code	Specification
	± 50 ppm (std.)
XXX	up to ± 1000ppm (customer to specify)

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 $5x10^{-8}$ atm.cc/s of helium



Pin #	Connections
1	Vc
2	Ground, Case
3	Output
4	Vcc