

VF596E

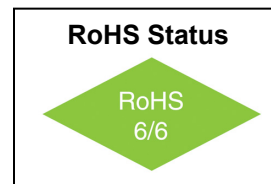
VCXO Low Jitter

9x14mm SMD, PECL/LVPECL



Features

- 12.5MHz to 200MHz frequency range
- <0.5ps RMS jitter over 12kHz to 20MHz
- APR to ± 50 ppm
- ECLinPS™ compatible



Applications

- 3.3 or 5.0 Volt Applications

Electrical Specifications

Parameter	Symbol	Condition	Min	Typ	Max	Unit	Note
Frequency Range	F		12.5		200	MHz	
Frequency Stability	$\Delta F/F$	Vs. Operating Temperature			± 25	ppm	
Operating Temperature	T		-40°		+85°	°C	See "How to Order" chart
Supply Voltage	V _{CC}		4.75 3.15	5.00 3.30	5.25 3.45	V	
Supply Current	I _{CC}	50 Ohms Load			65	mA	
Voltage Control	V _C	V _{CC} =5.0V V _{CC} =3.3V	0 0		5.0 3.3	V	
APR		Overall	± 50			ppm	
Phase Noise		1 σ			1	ps	f _j >1kHz
Input Impedance		f _m <10kHz	50			kOhm	
Start-up Time	T _S			2	10	ms	
Duty Cycle		@50%	45	50	55	%	
Modulation BW	f _m	@V _C = 2.5V @V _C = 1.65V	10			kHz	@-3dB
Deviation		V _C = 0V to 3.3V, 25°C V _C = 0V to 5.0V, 25°C		± 100		ppm	
Deviation Slope		Monotonic, positive		50		ppm/V	
Linearity					± 20	%	Note 1
Setability (V _C for Center Frequency)	V _{C0}	@25°C, F _{NOM}	1.25 2.0	1.65 2.5	2.05 3.0	V	

Note 1: Tighter linearity specification available.

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Electrical Specifications

Parameter	Symbol	Condition	Min	Typ	Max	Unit	Note
Load	50 Ohms to $V_{CC}-2V$ or Thevenin Equiv. Bias Required						
Output High Voltage	V_{OH}	Max Load	$0.9V_{CC}$		$0.81V_{CC}$	V	
Output Low Voltage	V_{OL}	Max Load	$0.185V_{CC}$		$0.165V_{CC}$	V	
Rise/Fall Time	T_R/T_F	20% to 80%			0.6	ns	
Enable/ Disable Time	T_E/T_D				100	ns	
Enable/ Disable Function	Input HIGH (>2.5V) DISABLED Input LOW (<0.5V): or floating: ACTIVE						

Environmental and Mechanical Conditions

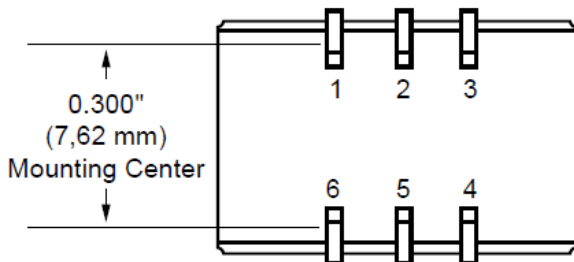
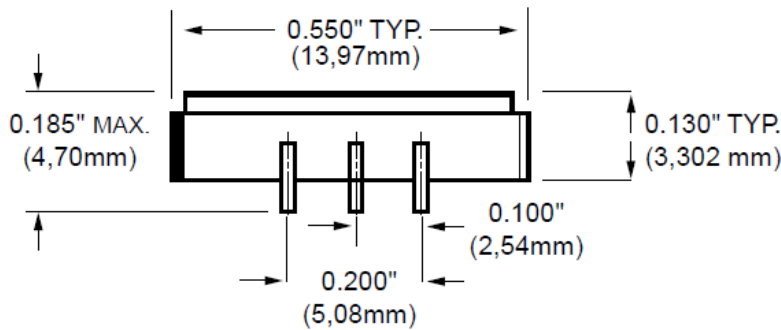
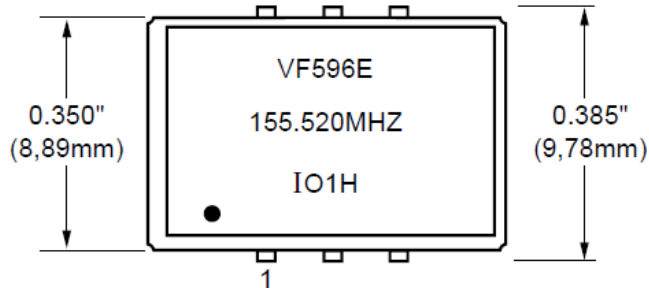
Parameter	Condition
Mechanical Shock	Per MIL-STD-202, Method 213, Cond. E
Thermal Shock	Per MIL-STD-883, Method 1011, Cond. A
Vibration	Per MIL-STD-883, Method 2007, Cond. A
Soldering Conditions	60°C, for 10s, Max., or 230°C for 90s Max.
Hermetic Seal	Leak rate less than 5×10^{-8} atm.cc/s of helium

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Package

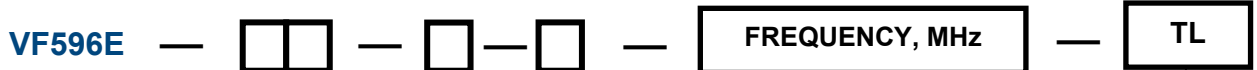


All dimensions are typical unless otherwise specified.

Pin Assignments

Pin #	Connections
1	V _C
2	Negative Enable (internal pull-down)
3	Ground, Case
4	Output
5	Complementary Output
6	V _{CC}

How to Order



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

Supply Voltage	
Code	Specification
L	3.3V
	5.0V

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

APR (ppm)	
Code	Specification
	± 50 ppm MIN. (std.)
XXX	Specify Deviation MIN.

PbSn (60/40)
Tinned lead option

(up to ± 500 ppm MAX)