

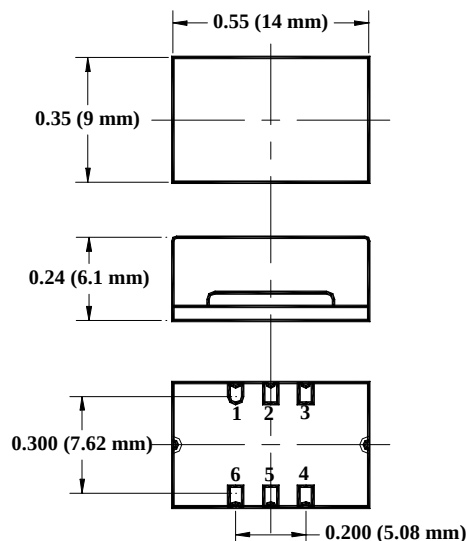
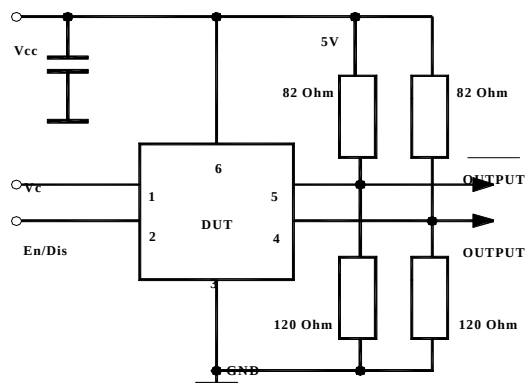
Product Data Sheet

Features

- Small, Low Profile SMD Package
- Very Low Phase Jitter and Phase Noise
- Excellent Frequency Stability
- Low Aging, Vacuum sealed Crystal
- Complementary Output Standard
- Enable/Disable Standard
- Fundamental Crystal Design

Applications

- Optical Networking, SONET/SDH
- 10 Gbit Ethernet
- Frequency Translation



Creating a Part Number

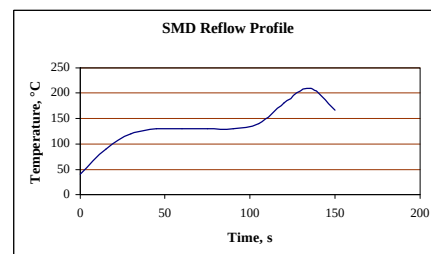
VFT596			-APR, ppm	FREQUENCY, MHz

Supply Voltage

Code	Specification
S	5V $\pm 5\%$
L	3.3V $\pm 5\%$

Temperature Range

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



VFT596 Series Surface Mount VCXO

Specifications

Parameter	Symb	Condition	Min	Typ	Max	Unit	Note
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Absolute Maximum Ratings

Input Break Down Voltage	Vcc		-0.5		7.0	V	
Storage temp.	Ts		-55		85	° C	
Contr. Voltage	Vc		-1		9	V	

Electrical

Frequency range	F		70		200	MHz	
Input Voltage	Vcc		4.75 3.15	5.00 3.30	5.25 3.45	V	Std LV
Input Current	Icc	50 Ohm Load			75	mA	
Frequency Stability	ΔF/F	vs. Temperature vs. Vcc aging		±20 ±5 ±5		ppm ppm/V ppm/year	First Year
Load	50 Ohm to Vcc-2V or Thevenin Equiv. Bias Required						
Duty cycle		@50%	45	50	55	%	
Rise/Fall time	Tr/Tf	20 to 80 %			0.6	ns	
Logic "1" level	Voh		Vcc-0.96		Vcc-0.81	V	100K available
Logic "0" level	Vol		Vcc-1.85		Vcc-1.65	V	100K available
Start up time	Ts			2	10	ms	
Phase jitter		1σ		0.4	1	ps	fj>100 Hz
SSB Phase Noise		@100 Hz @1 KHz @10 KHz @100 KHz		-95 -125 -140 -145		dBc/Hz	
Modulation BW	fm	@Vc=2.5V	>10KHz				@-3db
Input Impedance		fm < 10KHz	> 50Kohm				
Control voltage	Vc		0 0		5 3.3	V	Std LV
Deviation		Vc=0V to 5V,25°C Vc=0V to 3.3V,25°C	±100			ppm	
Absolute usable pull range		Over all	±50			ppm	1
Deviation slope		Monotonic, positive		50		ppm/V	Std, 70 for LV
Linearity			-10		+10	%	
Setability (Vc for center freq.)	Vc0	@25°C, Fnom.	2.0 1.25	2.5 1.65	3.0 2.05	V	Std LV
Enable/disable Function	Input HIGH (>2.5V): DISABLED Input LOW (<0.5V) or floating: ACTIVE						
Enable/disable Time	Te/Td				100	ns	

Environmental and Mechanical

Operating temp. range	0°C to 70°C (-40°C to 85°C available)
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	230°C for 90s Max
Hermetic Seal	Leak rate less than 5x10 ⁻⁸ atm.cc/s of helium (crystal only)

Electrical Connections

Pin Out	Pin #1- Voltage Control Pin #2 - Negative Enable (internal pulldown) Pin #3 - Case, Gnd Pin #4 - Output Pin #5 - Complementary Output Pin #6 - Vcc
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Notes: 1. Up to 100 ppm available at Vcc = 5V

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