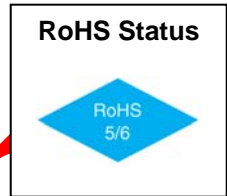


VFT561 XO 9x14mm SMD, PECL/LVPECL



Features

- Small, Low Profile SMD Package
- Ultra Low Jitter and Phase Noise
- Low Aging, Vacuum Sealed Crystal
- Complementary Output Standard
- Enable/Disable Optional
- No Frequency Multiplication



Applications

- Optical Networking, SONET / SDH
- 10 Gigabit Ethernet
- Telecommunications

***Not recommended for new designs. Please see VFXO110.**

Electrical Specifications

Parameter	Symbol	Condition	Min	Typ	Max	Unit	Note
Frequency Range	F		19		300	MHz	
Frequency Stability	$\Delta F/F$	vs. Temperature			± 20 ± 50 ± 100	ppm	Order Code S Order Code N Order Code L
Overall		vs. Vcc vs. aging			± 1 ± 1	ppm/V ppm/year	
RF Output		PECL / LVPECL	Determined by supply voltage selection				
Supply Voltage	Vcc		4.75 3.15	5.00 3.30	5.25 3.45	V	Order Code 5 Order Code 3
Input Current	Icc	50 Ohm Load			75	mA	



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Electrical Specifications

Parameter	Symbol	Condition	Min	Typ	Max	Unit	Note
Load	50 Ohm to Vcc-2V or Thevenin Equivalent Bias Required						
Duty Cycle		@ 50%	45	50	55	%	
Rise / Fall Time	Tr/Tf	20% to 80%			0.5 1.8	ns	E, Y, Q, H
Logic "1" Level	Voh		Vcc-0.96		Vcc-0.81	V	
Logic "0" Level	Vol		Vcc-1.85		Vcc-1.65	V	
Start up time	Ts			2	10	ms	
Phase Jitter		1 σ		0.4	1	ps	Fj=100Hz -80MHs
SSB Phase Noise		100Hz 1KHz 10KHz 100KHz		-95 -125 -140 -145		dBc/Hz	@25C
Control Voltage	Vc		0 0		5 3.3	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	

How to Order

VFT561 — [] [] [] [] — FREQUENCY, MHz

Model Pin Out

Code	Specification
E	#1-N/C, #2-E/D, #5-OUT
Y	#1-OUT, #2-E/D, #5-N/C
Q, H	#1-OUT, #2-N/C, #5-N/C

Supply Voltage

Code	Specification
5	5V
3	3.3V

Temperature Range

Code	Specification
A	-10°C to 60°C
B	0°C to 70°C
J	-20°C to 70°C
C	-40°C to 85°C

Stability

Code	Specification
L	±50 ppm
N	±25 ppm
S	±20 ppm



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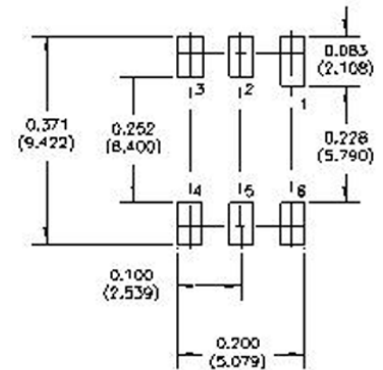
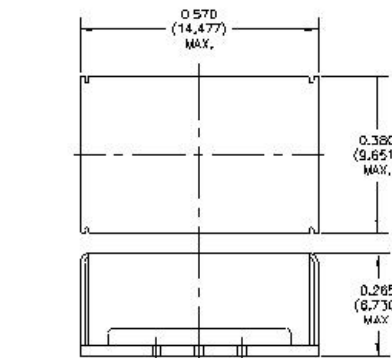
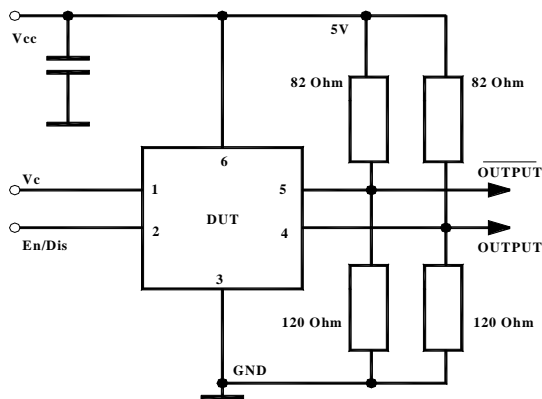


Absolute Maximum Ratings

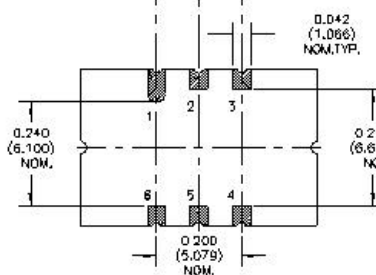
Parameter	Symbol	Condition	Min	Typ	Max	Unit	Note
Supply Break Down Voltage	V _{cc}		-0.5		7.0	V	
Storage Temperature	T _s		-55		+85°	°C	
Control Voltage	V _c		-1		9	V	

Environmental and Mechanical

Parameter	Specification
Mechanical Shock	Per MIL-STD-202, Method 213, Condition A
Thermal Shock	Per MIL-STD-883, Method 1011, Condition A
Vibration	Per MIL-STD-883, Method 2007, Condition A
Soldering Conditions	230°C for 90s max
Hermetic Seal	Leak rate less than 5x10 ⁻⁸ atm cc/s of helium (crystal only)



Pin Out		
Model "E"	Pin #1- N/C Pin #2 - Negative Enable Pin #3 - Case, Gnd	Pin #4 - Output Pin #5 - Complementary Output Pin #6 - Vcc
Model "Y"	Pin #1- Complementary Output Pin #2 - Negative Enable Pin #3 - Case, Gnd	Pin #4 - Output Pin #5 - N/C Pin #6 - Vcc
Model "Q", "H"	Pin #1- Complementary Output Pin #2 - N/C Pin #3 - Case, Gnd	Pin #4 - Output Pin #5 - N/C Pin #6 - Vcc



Recommended Soldermask Layout
Dimensions may require altering for manufacturing process variations. Dimensions in () are millimeters.

