

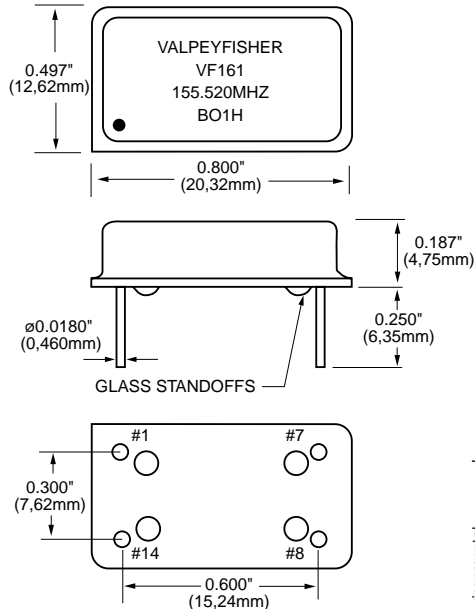
VF160/161

10KH ECL/PECL Compatible Clock Oscillator



FEATURES

- Very Low Phase Jitter
- Industrial Temperature Range
- In-house "Inverted Mesa" Crystal Technology for Higher Frequencies
- Wide Frequency Range
- Low Cost



All dimensions are typical unless otherwise specified.

VF160/161 - - **FREQ.**

FREQUENCY STABILITY		LEAD CONFIGURATION	
Code	Specification	Code	Specification
S	±20 ppm	G	Gull Wing
A	±25 ppm	G	Through Hole (std.)
B	±50 ppm		
	±100 ppm (std.)		
DUTY CYCLE		OPERATIONAL TEMP. RANGE	
Code	Specification	Code	Specification
HH	±2.5%	0	0°C to +70°C (std.)
	±5% (std.)	1	-40°C to +85°C
INPUT VOLTAGE			
Code	Specification		
L	3.3 Volt ±5% (161 only)		
	5.0 Volt ±5% (std.)		

Example: VF161SHHL-1-200MHz: Frequency Stability ±20ppm, Duty Cycle ±2.5%, Input Voltage 3.3 Volt ±5%, Operating Temperature -40°C to +85°C, Complementary Output, Frequency 200.000MHz.

Parameter	Symb	Condition	Min	Typ	Max	Unit	Note	
Absolute Max. Ratings	Input Break Down Voltage	Vcc-Vee	-0.5		7.0	V		
	Storage Temp.	Ts	-40		+85	°C		
Electrical	Frequency Range	F	10		300	MHz		
	Frequency Stability	ΔF/F	Overall Conditions Including: Calibration, temp., aging 10 yrs. shock, vibration		±100	ppm	1	
	Input Voltage	Vcc Vcc Vee	PECL LVPECL ECL	4.75 3.15 -4.95	5.00 3.30 -5.20	5.25 3.45 -5.45	V	VF161 VF161L VF160
	Input Current	Icc/lee	50 Ohm Load			80	mA	
	Load	50 Ohm to Vcc-2V or Thevenin Equiv. Bias required						
	Duty Cycle		@50%	45	50	55	%	2
	Rise/Fall Time	Tr/Tf	20% to 80%			1.5	ns	
	Logic "1" Level	Voh	@Vcc = 5.0V @Vee = -5.2V @Vcc = 3.3V	4.04 -0.96 2.59		4.19 -0.81 2.74	V	PECL ECL LVPECL
	Logic "0" Level	Vol	@Vcc = 5.0V @Vee = -5.2V @Vcc = 3.3V	3.15 -1.85 1.45		3.25 -1.65 1.55	V	PECL ECL LVPECL
	Start-up Time	Ts			2	10	ms	
Phase Jitter		1σ			1	ps	fj>1KHz	
Environmental and Mechanical	Operating Temperature 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	260°C, for 10s, Max.						
Electrical Connections	Hermetic Seal	Leak rate less than 5 x 10 ⁻⁸ atm.cc/s of helium						
	Pin Out	Pin #1-Complementary Output Pin #7-Ground, Case (PECL)/Vee (ECL) Pin #8-Output Pin #14-Vcc (PECL)/Ground, Case (ECL)						

Notes:

1. Standard frequency stability (±20, ±25, ±50, others available).
2. Tighter duty cycles available. Measure @ 50% of the voltage swing.

All specifications are subject to change without notice.