

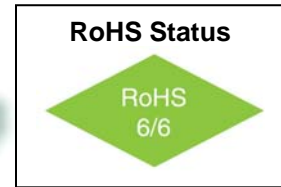
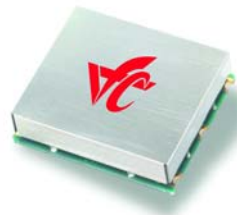
VFJA907

Jitter Attenuator w/ $F_{out} = 161.1328$ MHz



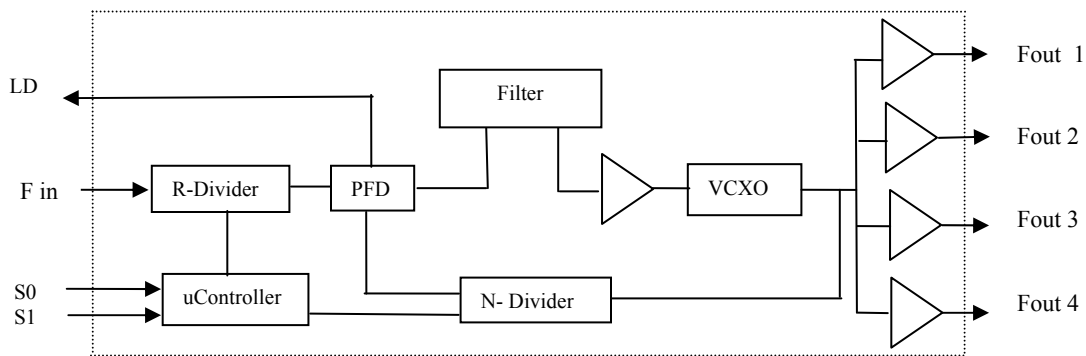
Applications

- Sonet / SDH / ATM
- 10 Gigabit Ethernet
- Wireless Infrastructure



Description

The VFJA907 is a Jitter Attenuator that provides 4 LVCMOS outputs with a frequency of 161.1328 MHz. A Lock Detect signal indicates when the device is in “lock”. Operating with a +3.3 volt power supply the device typically consumes 150 mW. The VFJA907 is available in a 19.5mm x 15.5 mm surface mount package.



Block Diagram



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Absolute Maximum Ratings

Parameter	Symbol	Condition	Min	Typ	Max	Unit	Note
Supply Break Down Voltage	Vcc		-0.5		5.5	V	
Storage Temperature	Ts		-55		+105°	°C	

Electrical Specifications

Parameter	Symbol	Condition	Min	Typ	Max	Unit	Note	
Output Frequency	Fout		161.1328125			MHz		
# of Outputs					4			
Input Frequency	Fin		644.53125			MHz	See Table 1	
Input Level	Vin	Single - ended AC coupled internally	0.4		3.3	V p-p		
Input Jitter		100 Hz to 1 MHz			40	ps		
Output Level Logic "1"	Voh	I _{OH} = 8 mA	Vcc-6		Vcc	V	LVC MOS	
Output Level Logic "0"	Vol	I _{OL} = 8 mA	0.0		.3	V	LVC MOS	
Phase Jitter		12KHz to 20MHz		0.20		ps(rms)		
Peak to Peak Jitter				7	10	ps		
SSB Phase Noise	φ _n	100Hz 1KHz 10KHz 100KHz		-100 -120 -145 -153		dBc/Hz	@ 161 MHz	
APR			± 35			ppm		
Modulation BW			10			Hz	Note 1	
Duty Cycle		@ 50%	45	50	55	%		
Rise / Fall Time	Tr/Tf	20% to 80%			0.6	ns		
Start up time				2	10	ms		
Supply Voltage	Vcc		3.15	3.30	3.45	V		
Input Current	Icc			45	55	mA		
Operating Temperature Range	Ta		-40°		+85°	°C		
Lock Detect	LD	Output HIGH (> 2.5 V) : In Lock; Output LOW (< .5V): Out of Lock						LVC MOS



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Environmental and Mechanical

Parameter	Specification
Mechanical Shock	Per MIL-STD-202, Method 213, Condition E
Thermal Shock	Per MIL-STD-883, Method 1011, Condition A
Vibration	Per MIL-STD-883, Method 2007, Condition A
Soldering Conditions	260°C for 10s max
Hermetic Seal	Leak rate less than 5×10^{-8} atm.cc/s of helium (crystal only)

Connection Diagram

Vcc = 3.3V
C1 .1 uF
R1, R2 = 200 Ω
S1, S0
Fout 1, 2, 3, 4
Gnd

Mechanical Outline

0.610 [15.50]
0.767 [19.50]
0.265 [6.731] MAX.
0.05 [1.26] NDM.TYP.
0.05 [1.26] NDM.TYP.
0.100 [2.54] NDM.TYP.
0.050 [1.27] NDM.TYP.

Pin #	Description
1	Fin
2	LD
3	Vccp*
4	Vcc
5	S1
6	DNC
7	S0
8	Gnd
9	N/C
10	Fout 1
11	Fout 2
12	Fout 3
13	Fout 4
14	Gnd

* Connect pin #3 to pin #4 and add .1 uF

Table 1

S1:S0	Input Frequency (MHz)	Output Frequency (MHz)
00	644.53125	161.1328125
01	644.53125	161.1328125
10	644.53125	161.1328125
11	644.53125	161.1328125

