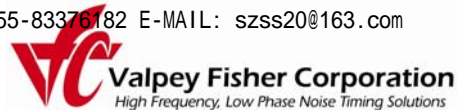


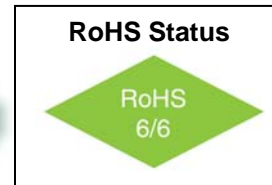
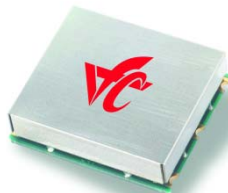
VFJA434

Quad Input to 200 MHz Jitter Attenuator w/ F_{OUT} to 200 MHz



Features

- 10 MHz to 200MHz Output Frequency Range
- 8 KHz to 200 MHz Input Frequency Range
- Ultra Low Jitter and Phase Noise: -143 dBc/Hz @ 1KHz
- Low Power: < 150mW typical

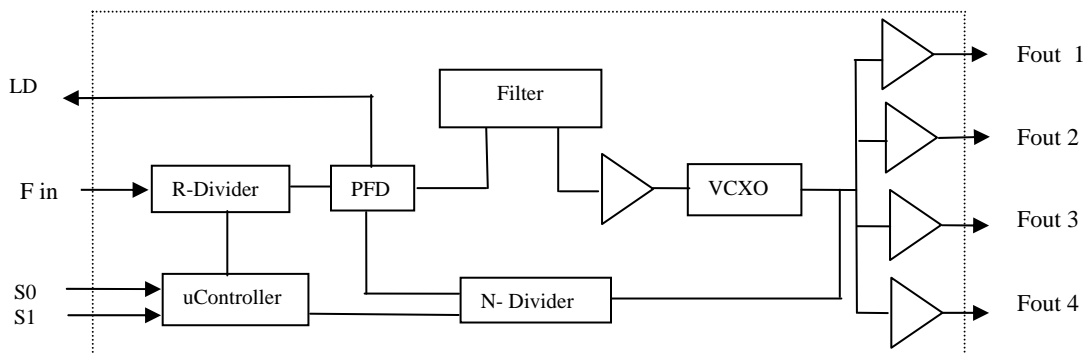


Applications

- Sonet / SDH / ATM
- Carrier Ethernet Synchronizers
- Wireless Infrastructure

Description

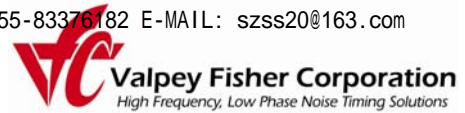
The VFJA434 is a Jitter Attenuator capable of providing an output frequency up to 200 MHz. Two select inputs [S1,S0] allow the user to select 1 of 4 preset input frequencies. A Lock Detect signal indicates when the output signal is frequency locked to the input. Operating with a +3.3 volt power supply the device typically consumes less than 150 mW. The VFJA434 is configured with four LVCMOS output ports. The device is available in a 19.5mm x 15.5 mm surface mount package.



Block Diagram

VFJA434

Quad Input to 200 MHz Jitter Attenuator w/ F_{OUT} to 200 MHz



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

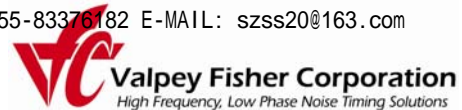
Parameter	Symbol	Condition	Min	Typ	Max	Unit	Note	
Output Frequency Range	Fout		10		200	MHz		
Input Frequency Range	Fin		0.008		200	MHz		
Input Level	Vin	AC coupled internally	0.4		3.3	V p-p		
Output Level Logic "1"	Voh	10K Ω // 10 pF	Vcc-0.1		Vcc	V		
Output Level Logic "0"	Vol		0.0		.1	V		
Phase Jitter		12KHz to 20MHz		0.18	0.35	ps(rms)		
SSB Phase Noise	Φn	100Hz 1KHz 10KHz 100KHz		-120 -143 -153 -163		dBc/Hz	@ 25 MHz	
APR			± 32			ppm		
Modulation BW			10			Hz	Note 1	
Duty Cycle		@ 50%	45	50	55	%		
Rise / Fall Time	Tr/Tf	20% to 80%	.8		4.0	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		0° -40°		+70° +85°	°C	Order code B Order code G	
Lock Detect	LD	Output HIGH (> 2.5 V) : In Lock; Output LOW (< .5V): Out of Lock						LVC MOS

Notes:

1. Consult factory for Bandwidth options

VFJA434

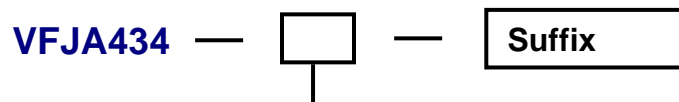
Quad Input to 200 MHz Jitter Attenuator w/ F_{OUT} to 200 MHz



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 5x10 ⁻⁸ atm.cc/s of helium (crystal only)

How to Order



Temperature Range

Code	Specification
B	0°C to 70°C
G	-40°C to 85°C

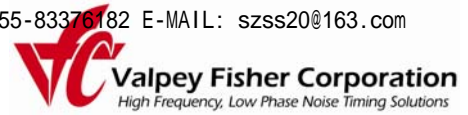
Once Input and Output frequencies have been submitted and approved, the Factory will assign a part number.

Table 2

P/N suffix	S1:S0	Input Frequency (MHz)	Output Frequency (MHz)	P/N suffix	S1:S0	Input Frequency (MHz)	Output Frequency (MHz)
-001	00	.008	25.00	-002	00	.008	125.00
	01	19.44	25.00		01	19.44	125.00
	10	25	25.00		10	25	125.00
	11	125	25.00		11	125	125.00
-003	00	24	80.0	-004	00	10	120
	01	24	80.0		01	10	120
	10	24	80.0		10	10	120
	11	24	80.0		11	10	120
-005	00	10	100.00	-006	00		
	01	10	100.00		01		
	10	10	100.00		10		
	11	10	100.00		11		

VFJA434

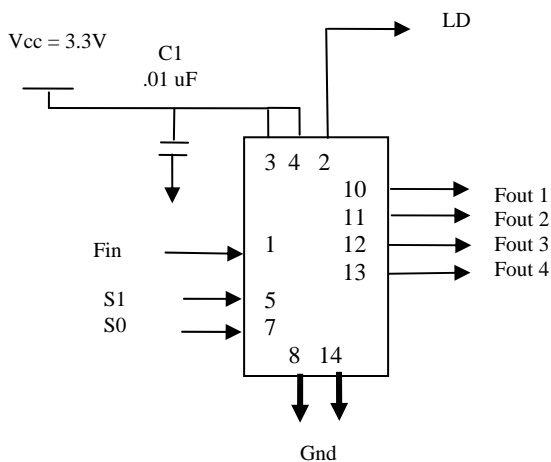
Quad Input to 200 MHz Jitter Attenuator w/ F_{OUT} to 200 MHz



Pin Assignments

Pin #	Symbol	Description	Notes
1	Fin	Input Frequency	
2	LD	Lock Detect	
3	Vccp	Connect to Vcc pin #4	Add .1 uF Capacitor
4	Vcc	3.3 Volt Power Supply	
5	S1	Input Select (msb)	
6	DNC	Do not connect	
7	S0	Input Select (lsb)	
8	Gnd	Ground	
9	n/c	No connection	
10	Fout 1	Output Frequency	
11	Fout 2	Output Frequency	
12	Fout 3	Output Frequency	
13	Fout 4	Output Frequency	
14	Gnd	Ground	

Connection Diagram



Mechanical Outline

