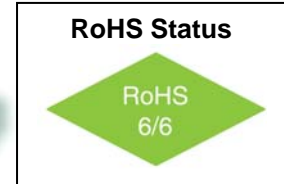
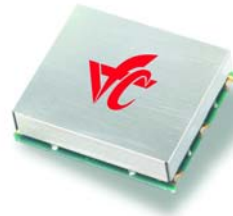


VFJA430

Jitter Attenuator with 3 Input Frequency Selections plus Free Run Mode

Features

- Free Run Mode
- 8 KHz to 200 MHz Input Frequency Range
- Ultra Low Jitter and Phase Noise: -152 dBc/Hz @ 100KHz
- Low Power: < 150mW typical

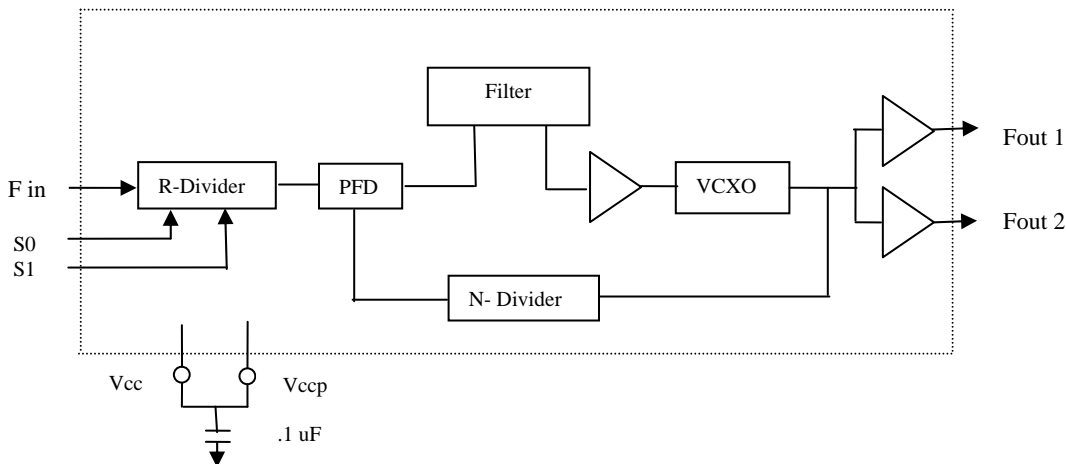


Applications

- Synchronous Ethernet
- Wireless Infrastructure

Description

The VFJA430 is a Jitter Attenuator that provides two LVCMOS outputs at the specified frequency. Two select inputs [S1,S0] allow the user to select 1 of 3 preset input frequencies or Free Run Mode. In Free Run mode the device outputs the nominal frequency and is not locked to the input reference frequency. Operating with a +3.3 volt power supply the device typically consumes 150 mW. The VFJA430 is available in a 19.5mm x 15.5 mm surface mount package.



Block Diagram

VFJA430

Jitter Attenuator with 3 Input Frequency Selections plus Free Run Mode



Absolute Maximum Ratings

Parameter	Symbol	Condition	Min	Typ	Max	Unit	Note
Supply Break Down Voltage	V _{cc}		-0.5		5.5	V	
Storage Temperature	T _s		-55		+105°	°C	

Electrical Specifications

Parameter	Symbol	Condition	Min	Typ	Max	Unit	Note
Output Frequency Range	F _{out}			25		MHz	
Input Frequency Range	F _{in}		.008		200	MHz	See Table 1
Input Level	V _{in}	AC coupled internally	1.0		3.3	V p-p	Note 2
Output Level Logic "1"	V _{oh}	I _{OH} = 8 mA	V _{cc} -6		V _{cc}	V	
Output Level Logic "0"	V _{ol}	I _{OL} = 8 mA	0.0		.3	V	
Phase Jitter		12KHz to 20MHz		0.20		ps(rms)	
SSB Phase Noise	φ _n	100Hz 1KHz 10KHz 100KHz		-102 -132 -147 -152		dBc/Hz	@ 125 MHz
APR			± 32			ppm	
Free-run Accuracy		-40°C to +85°C		±30	±50	ppm	
Modulation BW			10			Hz	Note 1
Duty Cycle		@ 50%	45	50	55	%	
Rise / Fall Time	T _r /T _f	20% to 80%			0.6	ns	
Start up time				2	10	ms	
Supply Voltage	V _{cc}		3.15	3.30	3.45	V	
Input Current	I _{cc}			45	55	mA	
Operating Temperature Range	T _a		-40°		+85°	°C	

Notes:

1. Consult factory for other bandwidth options.
2. For 2MHz > F_{in} < 20 MHz, ensure SR > 50 V/μs; For 8KHz > F_{in} < 2MHz, ensure Slew Rate > 2.5V / ns

VFJA430

Jitter Attenuator with 3 Input Frequency Selections plus Free Run Mode



How to Order

VFJA430 — Suffix (See Table 1)

Table 1

P/N suffix	S1:S0	Input Frequency (MHz)	Output Frequency (MHz)	P/N suffix	S1:S0	Input Frequency (MHz)	Output Frequency (MHz)
-001	00	Free-run Mode	125.0	-002	00	Free-run Mode	25.00
	01	19.44	125.0		01	1.544	25.00
	10	25.0	125.0		10	2.048	25.00
	11	125.0	125.0		11	25.00	25.00

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

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)

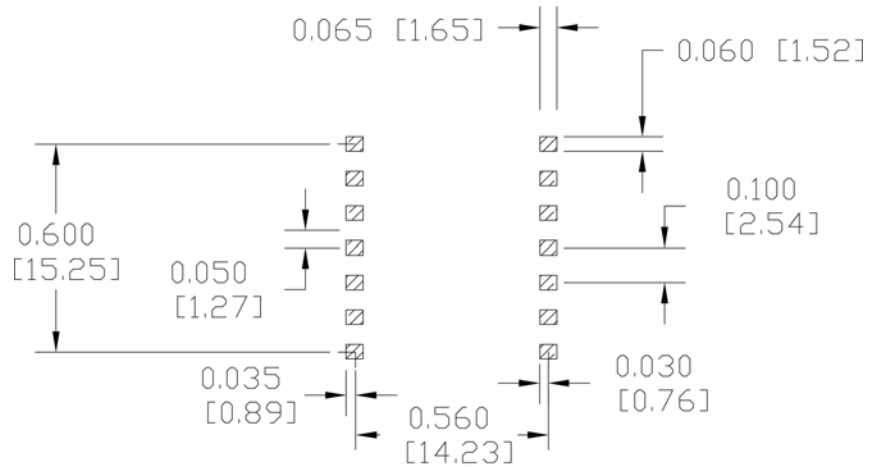
VFJA430

Jitter Attenuator with 3 Input Frequency Selections plus Free Run Mode

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

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

Mechanical Outline



Connection Diagram

