

# VFJA130

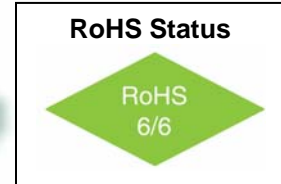
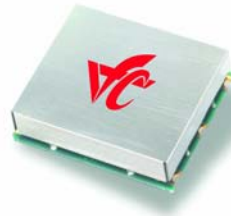
## Jitter Attenuator to 180MHz

### 25.4x22mm SMD, CMOS



#### Features

- CMOS output to 180MHz
- Ultra Low Jitter: <0.200 ps
- Meets OC-192 Jitter transfer, generation, and tolerance
- Low Power: <220mW typical
- Low Profile SMD package



#### Applications

- Sonet / SDH / ATM
- 10 Gigabit Ethernet
- Forward Error Correction (FEC)

#### Description

The VFJA130 is a Jitter Attenuator capable of providing an output frequency up to 180MHz. An internal synthesizer locks to the input reference clock and multiplies it up to the desired output frequency. The output frequency is determined by a VCXO designed for a wide pull range. An internal voltage regulator offers improved stability and noise performance. The output is configured as a CMOS. The VFJA130 is available in a 25.4mm x 22 mm surface mount package.

#### Electrical Specifications

Parameter	Symbol	Condition	Min	Typ	Max	Unit	Note
Input Frequency	Fref		0.008		100	MHz	
Output Frequency	Fout		50		1000	MHz	
Operating Temperature Range	T		0° -40°		70° +85°	°C	Order Code B Order Code G
Output		Signal	CMOS				
Supply Voltage	Vcc		4.75 3.15	5.00 3.30	5.25 3.45	V	Order Code D Order Code E
Jitter		12KHz to 20MHz		0.2	0.8	ps	
SSB Phase Noise		100Hz 1KHz 10KHz 100KHz		-90 -118 -142 -145		dBc/Hz	@ 622.08MHz

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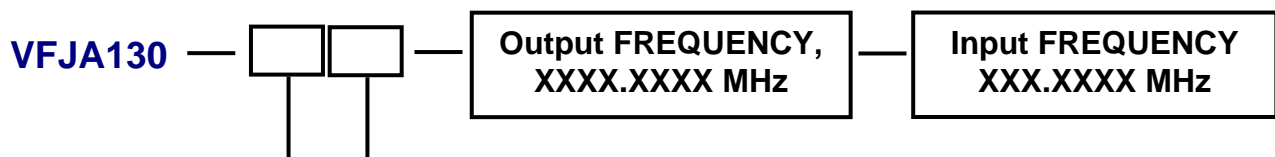
**Electrical Specifications**

Parameter	Symbol	Condition	Min	Typ	Max	Unit	Note
Supply Current	I <sub>cc</sub>	50 Ohm Load		62	75	mA	
Load	50 Ohm to V <sub>cc</sub> -2V or Thevenin Equivalent						
Duty Cycle		@ 50%	45	50	55	%	
Logic "1" Level	V <sub>oh</sub>		V <sub>cc</sub> -0.96		V <sub>cc</sub> -0.81	V	
Logic "0" Level	V <sub>ol</sub>		V <sub>cc</sub> -1.85		V <sub>cc</sub> -1.65	V	
Lock Range			50	100		ppm	
Input Level		AC Coupled Internally	0.4		3.3	V p-p	
Enable / Disable Function	Input HIGH (>2.5V): DISABLED Input LOW (<0.5V) or floating: ACTIVE					LVCMOS	
Enable / Disable Time	T <sub>e</sub> /T <sub>d</sub>				100	ns	

**Absolute Maximum Ratings**

Parameter	Symbol	Condition	Min	Typ	Max	Unit	Note
Supply Voltage	V <sub>cc</sub>		-0.5		+5.5	V	
Storage Temperature	T <sub>s</sub>		-55		+105°	°C	

**How to Order**



**Temperature Range**

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

**Supply Voltage**

Code	Specification
D	5V ± 5%
E	3.3V ± 5%

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### Environmental and Mechanical

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

#### Connection Diagram

Pin #	Connection
1	Vref
2	N/C
3	Vcc
4	Disable
5	Fout
6	nFout
7	GND

#### Mechanical Outline