VFJA1490P

High Frequency Jitter Attenuator / Clock Generator

Features

- Frequency Range 200MHz to 650 MHz
- 14mm x 9mm Surface Mount Package
- 3.3V LVPECL Output
- Low Jitter/Phase Noise
- Tape and Reel Packaging

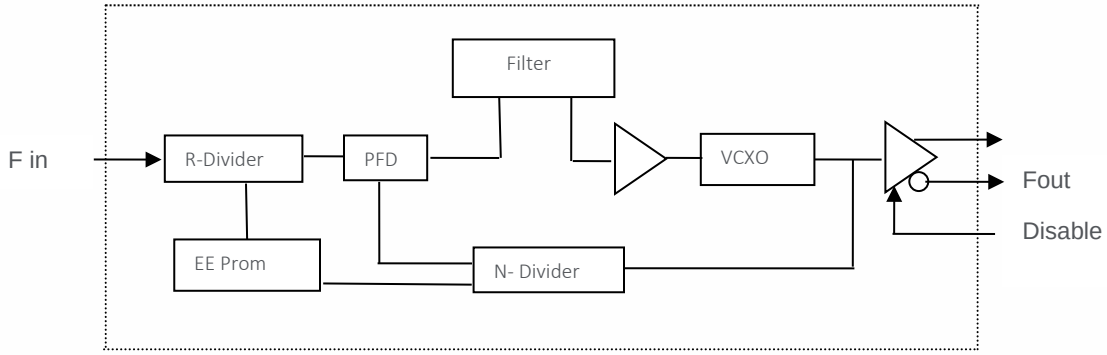
Dimensions: 14.12 x 9.27 x 6.48 mm

Applications

- Telecom Switching
- Wireless Communication
- Timing over Packet

Description

The VFJA1490P is a Jitter Attenuator which accepts an input reference clock up to 200 MHz and provides an output frequency up to 650 MHz. The output frequency is determined by a VCXO designed for low phase noise. The VFJA1490P is available in a 14 mm x 9 mm surface mount package.



Block Diagram

Electrical Specifications

Parameter	Symbol	Conditions & Remarks	Min	Typical	Max	Unit
Input Frequency	F in	Slew Rate 1.0V/ns	10	-	200	MHz
Input Level		DC coupled internally	0.4		3.3	Vp-p
Output Frequency	F out		200		650	MHz
Output Voltage Levels	V_{OH}	50 Ω to Vcc-2V or Thevenin Equivalent	Vcc-.95		Vcc-.85	V
	V_{OL}		Vcc-1.65		Vcc-1.53	V
Duty Cycle		@ 50% Vout (p-p)	45		55	%
Rise / Fall Times	Tr/Tf	20% to 80%			0.5	ns
Lock Range	APR		±20			ppm
Modulation BW	MBW		10			Hz
Operating Temperature Range	Ta		-40		+85	°C
Jitter		12kHz to 20 MHz		65	100	fs
SSB Output Phase Noise @ 500 MHz	Φn	100 Hz offset		-95		dBc/Hz
		1K Hz offset		-125		
		10K Hz offset		-138		
		100K Hz offset		-145		
		1M Hz offset		-146		
Start-up Time				2	3	s
Supply Voltage			+3.15	3.30	+3.45	V
Input Current				100	120	mA
Enable / Disable		Logic "0" (< 0.5V or floating) Output Enabled Logic"1" (> 2.2V) Output Disabled				LVCMOS
Enable/Disable Time					100	ns

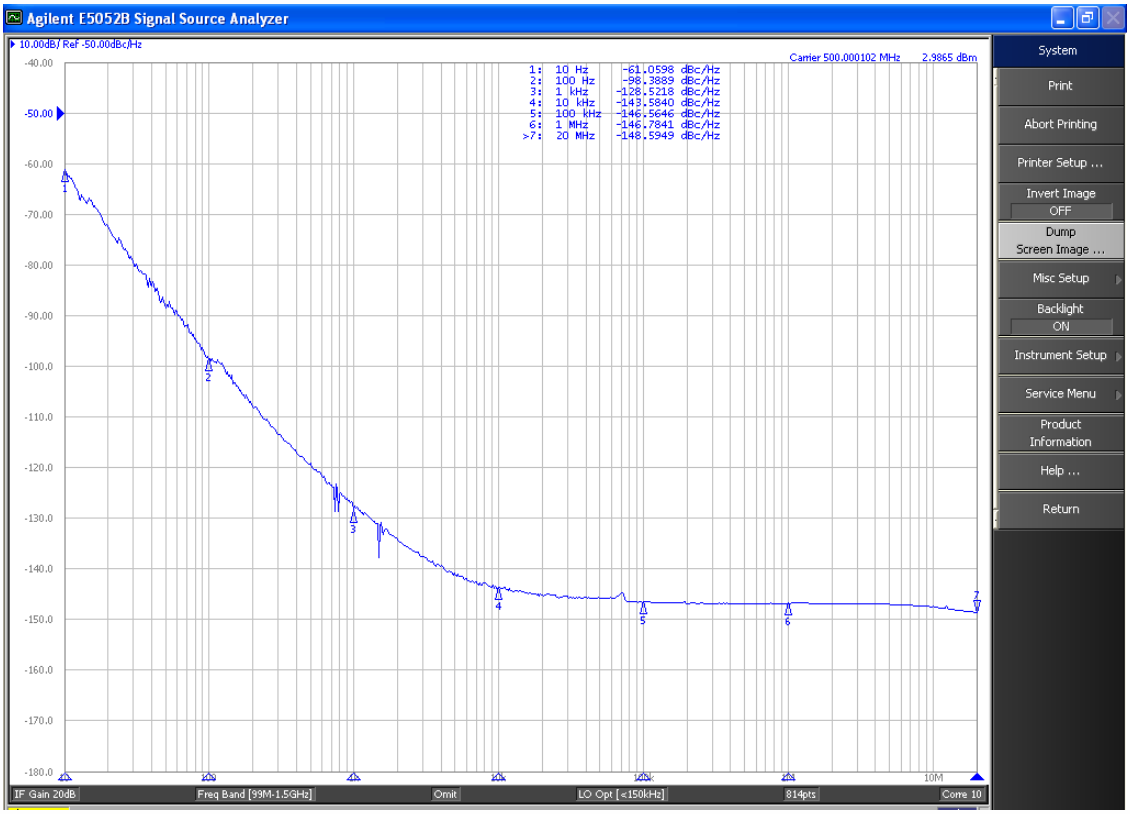
Absolute Maximum Ratings

Parameter		Conditions & Remarks	Min	Typical	Max	Unit
Supply Breakdown Voltage	Vcc		-0.5		+4.0	V
Storage Temperature	Ts		-50		+95	°C

Mechanical and Environmental

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)

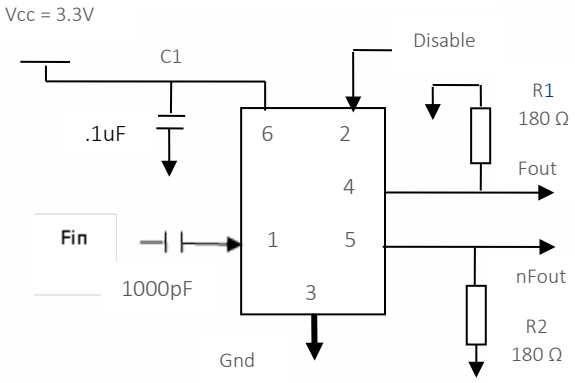
Phase Noise Performance @ Fout = 500 MHz



How to Order

Model Number		Output Frequency		Input Frequency
VFJA1490P	—	XXX.XXX M	—	XXX.XXX M

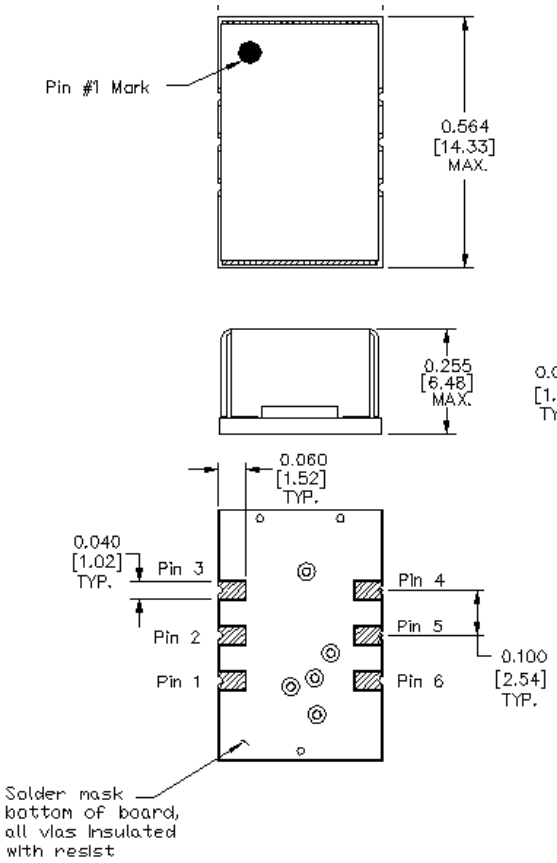
Connection Diagram

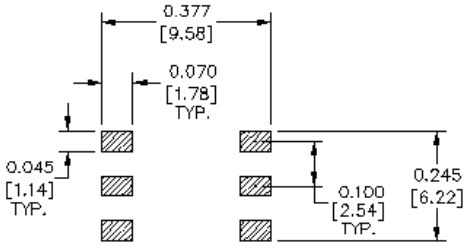


Pin Assignments

Pin #	Connection
1	Fin
2	Disable
3	Case, Gnd
4	Fout
5	NFout
6	Vcc

Mechanical Specifications





PCB Land Pattern
9mm x 14mm Body Size

Marking