

VFJA1491P

Jitter Attenuator / Clock Generator

Features

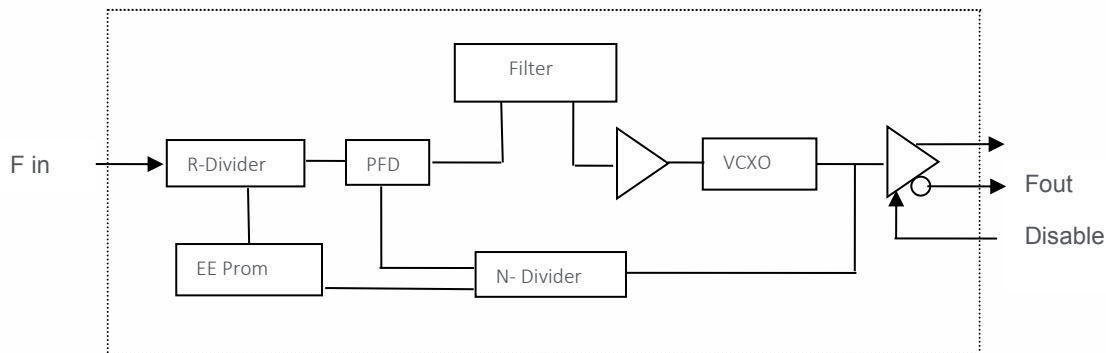
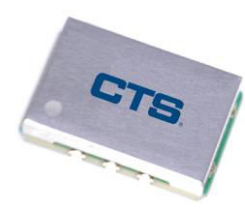
- Frequency Range 10MHz to 200 MHz
- 14mm x 9mm Surface Mount Package
- 3.3V LVPECL Output
- Low Jitter/Phase Noise
- Tape and Reel Packaging

Applications

- Telecom Switching
- Wireless Communication
- Timing over Packet

Description

The VFJA1491P is a Jitter Attenuator which accepts an input reference clock up to 200 MHz and provides an output frequency up to 200 MHz. The output frequency is determined by a VCXO designed for low phase noise. The VFJA1491P 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}		10		200	MHz
Output Voltage Levels	V_{OH} V_{OL}	50 Ω to V_{CC} -2V or Thevenin Equivalent	V_{CC} -.95 V_{CC} -1.65		V_{CC} -.85 V_{CC} -1.53	V
Duty Cycle		@ 50% V_{out} (p-p)	45		55	%
Rise / Fall Times	T_r/T_f	20% to 80%			0.5	ns
Lock Range	APR		± 20			ppm
Modulation BW	MBW		10			Hz
Operating Temperature Range	T_a		-40		+85	$^{\circ}C$
Jitter		12kHz to 20 MHz		65	120	fs
SSB Output Phase Noise @ 156.25 MHz	ϕ_n	100 Hz offset		-101		dBc/Hz
		1K Hz offset		-128		
		10K Hz offset		-146		
		100K Hz offset		-156		
		1M Hz offset		-160		
Start up Time				2	3	s
Supply Voltage			+3.15	3.30	+3.45	V
Input Current				85	100	mA
Enable / Disable		Logic "0" (< 0.5V or floating) Output Enabled Logic "1" (> 2.2V) Output Disabled				LVC MOS
Enable/Disable Time					100	ns

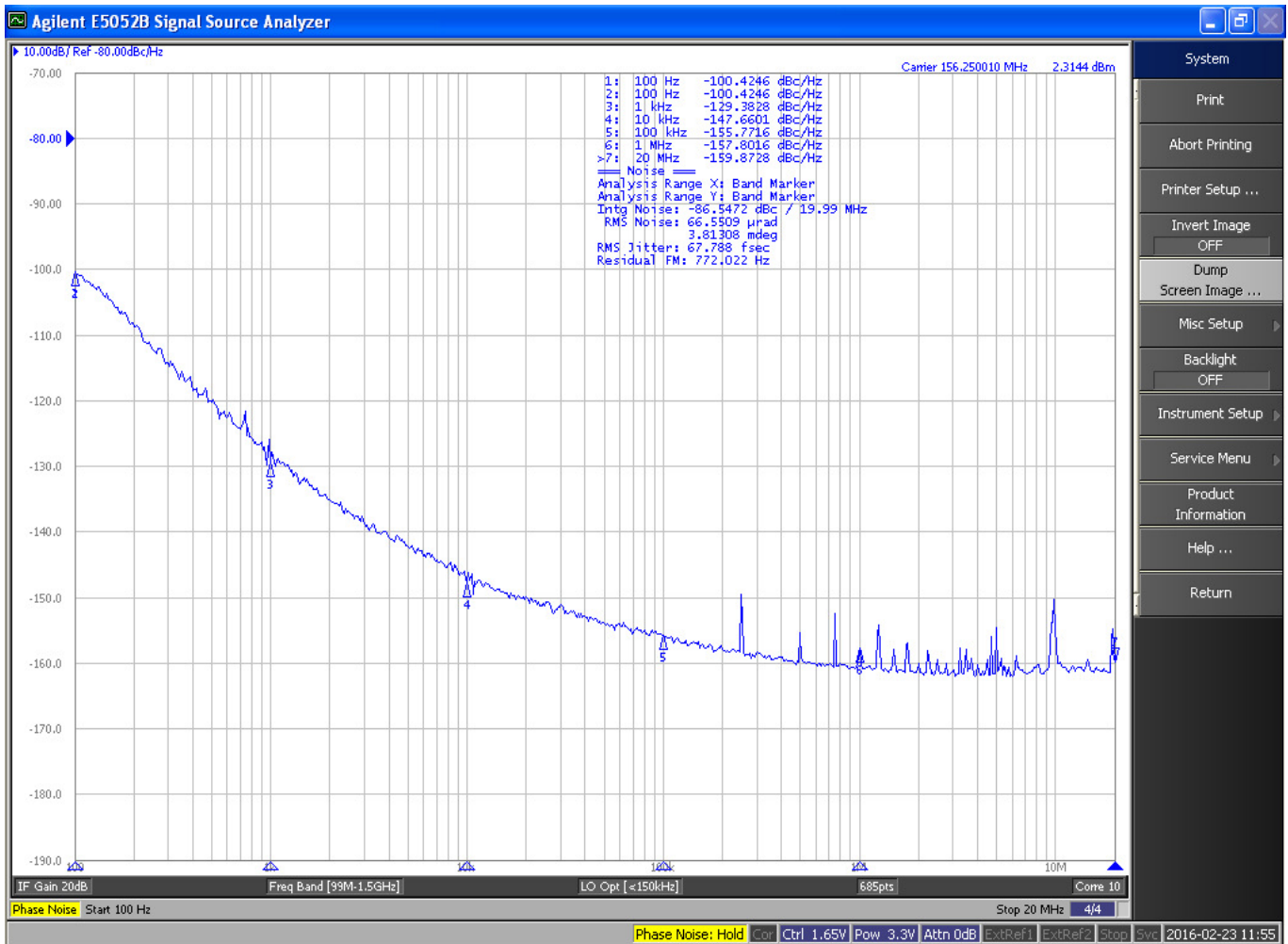
Absolute Maximum Ratings

Parameter	Conditions & Remarks	Min	Typical	Max	Unit
Supply Breakdown Voltage	V_{CC}	-0.5		+4.0	V
Storage Temperature	T_s	-50		+95	$^{\circ}C$

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 5×10^{-8} atm.cc/s of helium (crystal only)

Phase Noise Performance @ Fout = 156.25 MHz



Notes:



Standard Frequencies

Part Number	Output Frequency	Input Frequency	Loop BW
VFJA1491P-156.250M-156.250M	156.25 MHz	156.25 MHz	15 Hz
VFJA1491P-156.250M-25.000M	156.25 MHz	25.00 MHz	15 Hz
VFJA1491P-125.000M-25.000M	125.00MHz	25.00 MHz	15 Hz
VFJA1491P-25.000M-25.000M	25.00 Mhz	25.00 MHz	35 Hz

Consult factory for more frequency and bandwidth options.

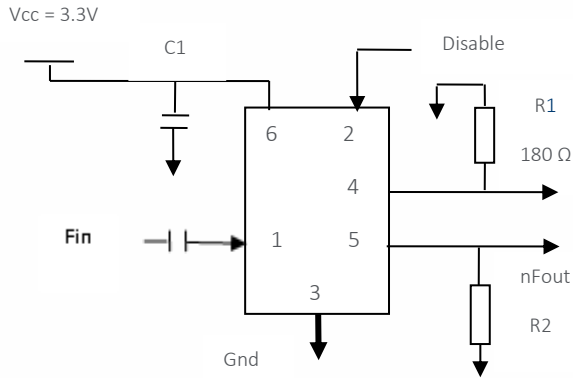
How to Order

Model Number	Output Frequency	Input Frequency
VFJA1491P	XXX.XXX M	XXX.XXX M

Marking

VFJA1491P xxx.xxx MHz (Fout) xxx.xxx MHz (Fin) XXYY (Date)

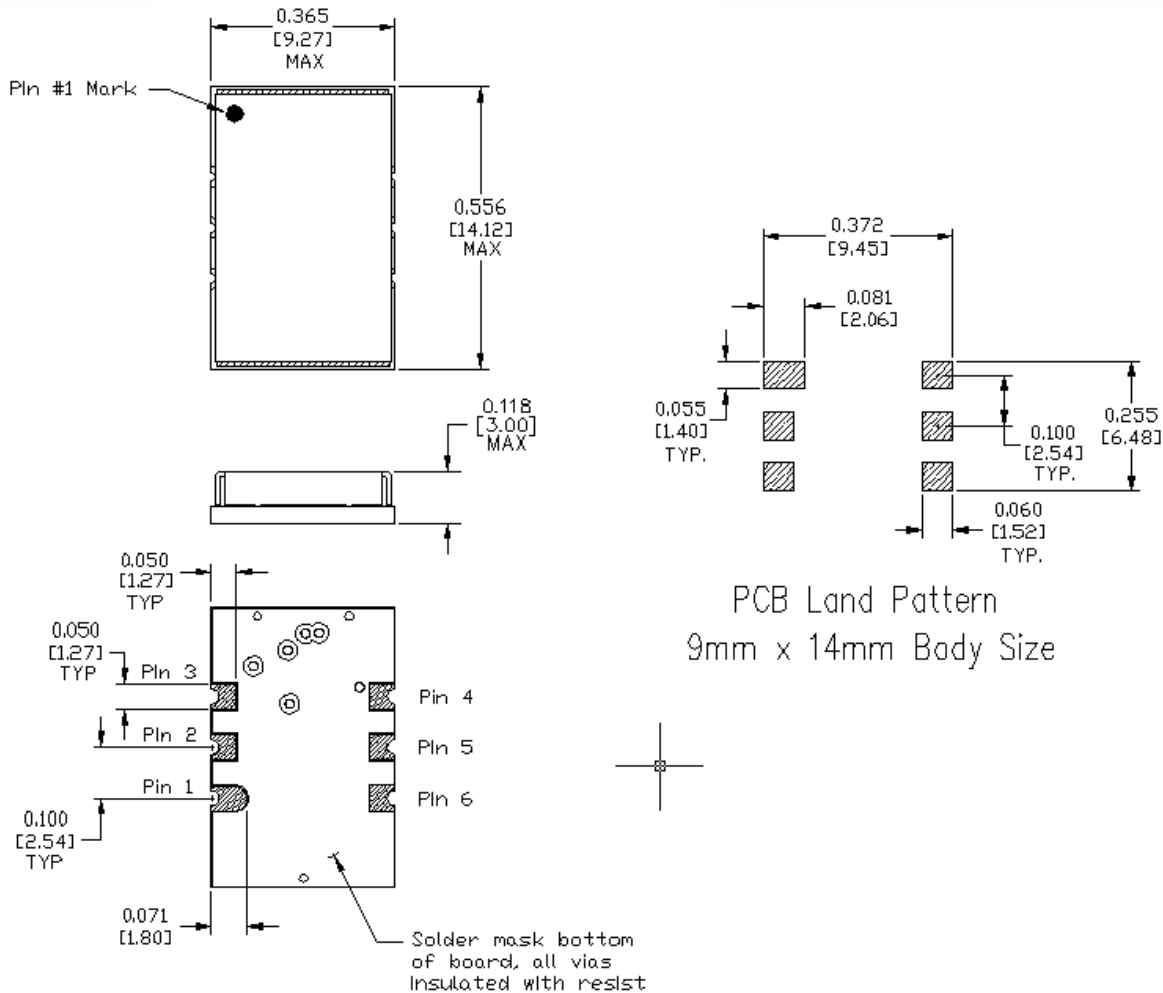
Connection Diagram



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