Chipsmall

Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

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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.
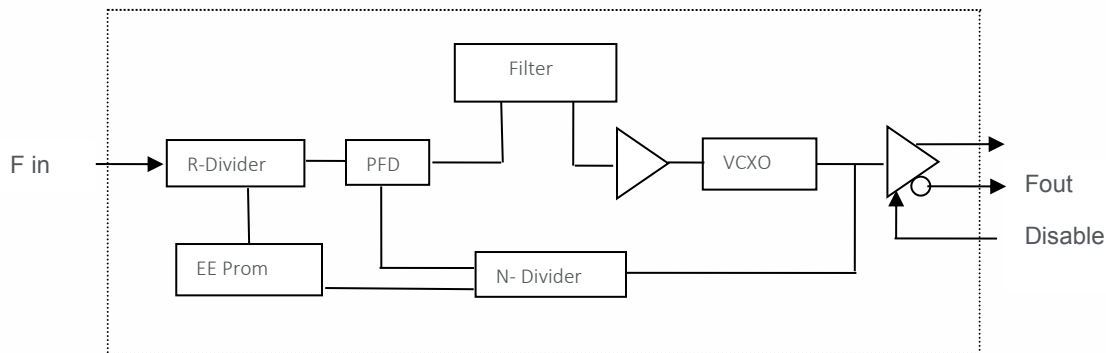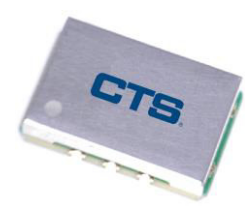
Block Diagram

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}	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	120	fs
SSB Output Phase Noise @ 156.25 MHz	Φn	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				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 5×10^{-8} atm.cc/s of helium (crystal only)

Phase Noise Performance @ Fout = 156.25 MHz
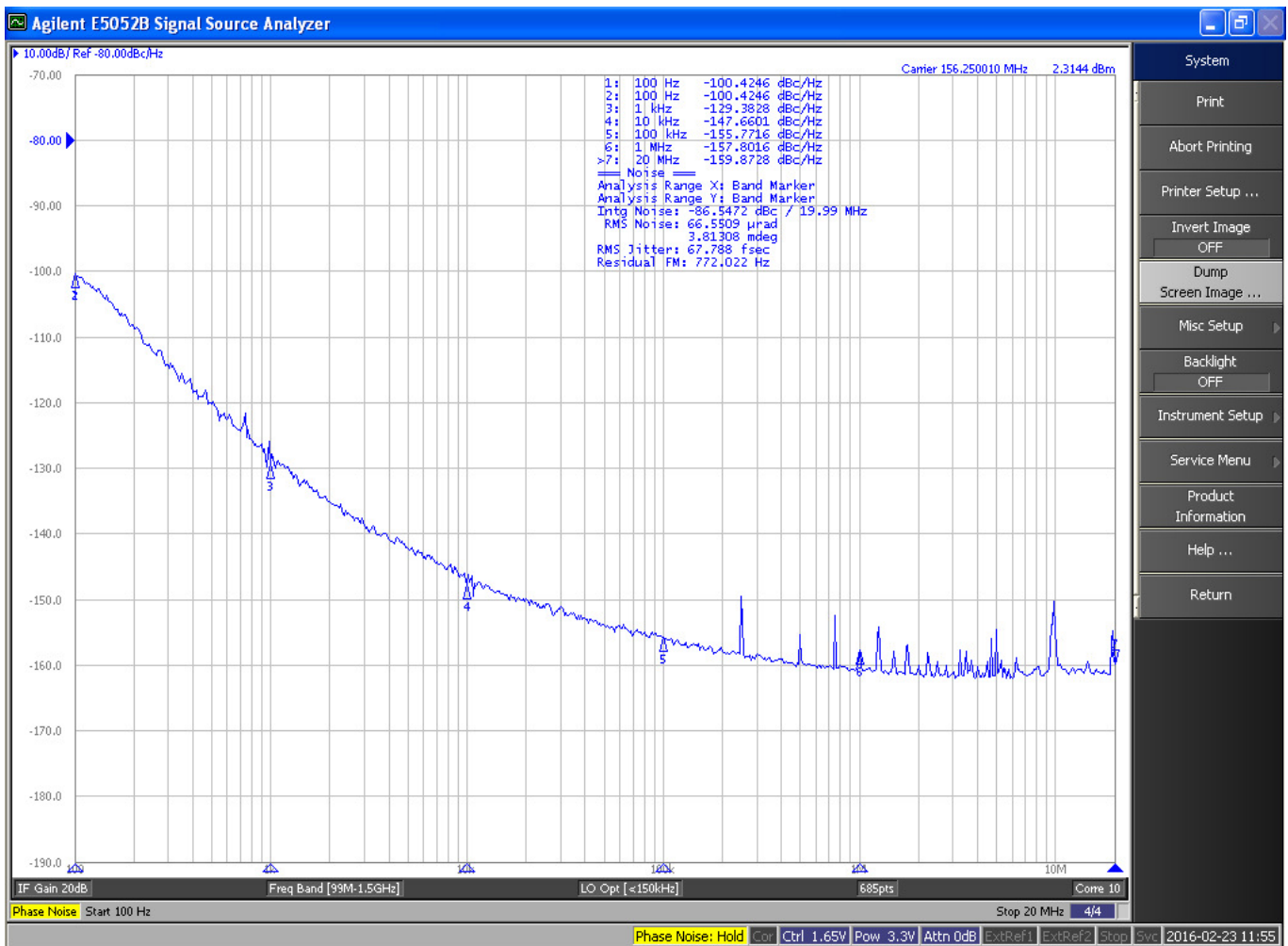
Standard Frequencies

Part Number	Output Frequecy	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

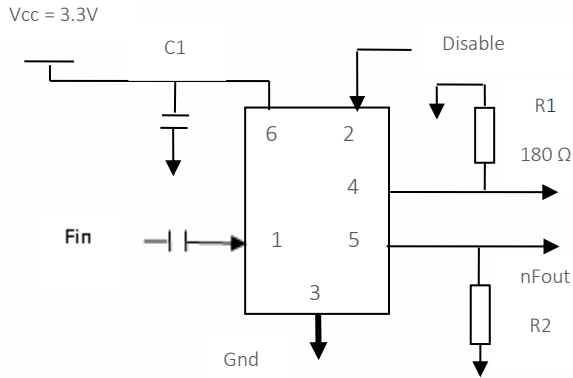Consult factory for more frequency and bandwidth options.

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

Vcc = 3.3V

C1

Disable

R1

180 Ω

Fin

nFout

R2

Gnd

6 2

4

1 5

3

Pin Assignments

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

Mechanical Specifications

Pin #1 Mark

0.365
[9.27]
MAX

0.556
[14.12]
MAX

0.118
[3.00]
MAX

0.050
[1.27]
TYP

0.050
[1.27]
TYP

Pin 3

Pin 2

Pin 1

0.100
[2.54]
TYP

0.071
[1.80]

Pin 4

Pin 5

Pin 6

Solder mask bottom
of board, all vias
insulated with resist

0.372
[9.45]

0.081
[2.06]

0.055
[1.40]
TYP.

0.100
[2.54]
TYP.

0.255
[6.48]

0.060
[1.52]
TYP.
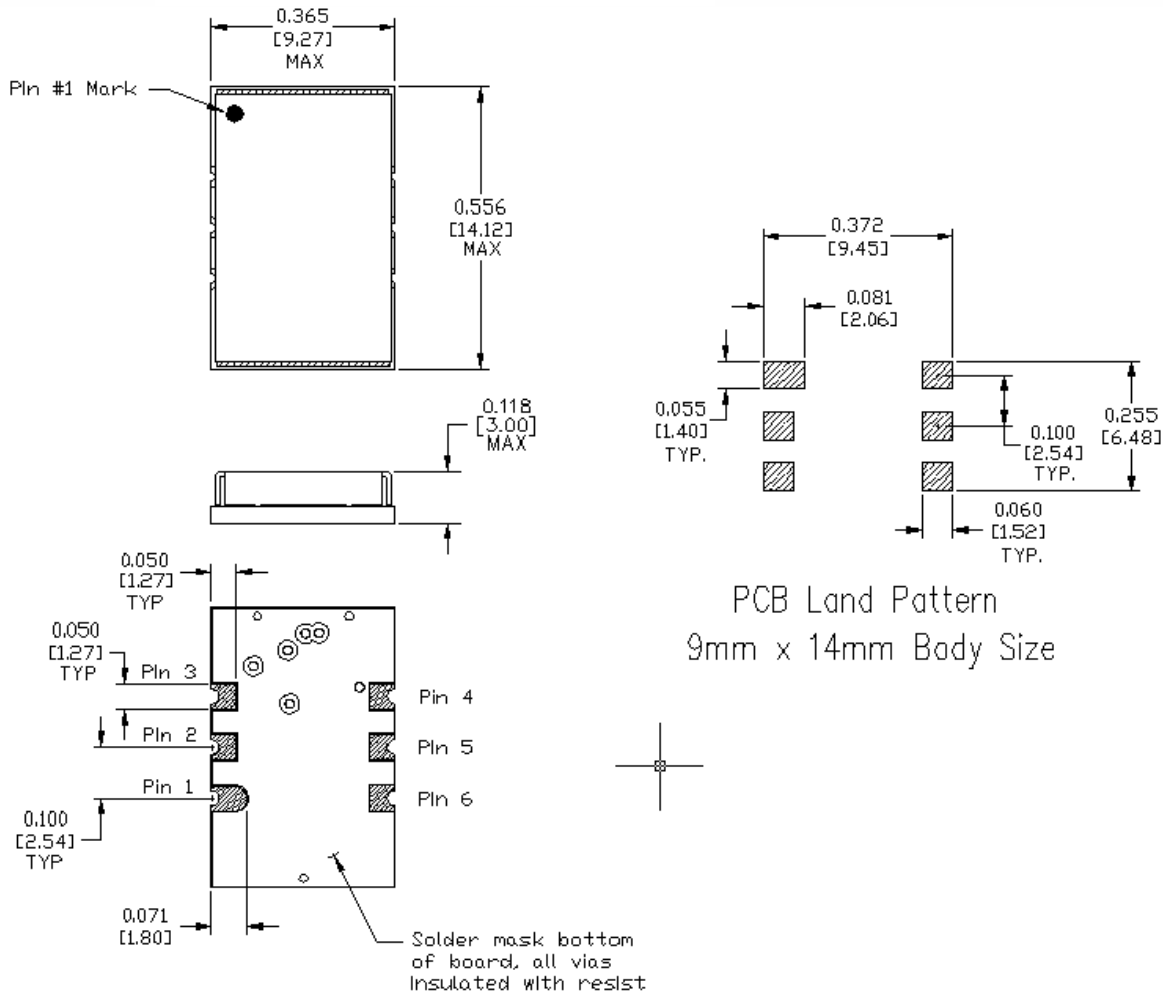
PCB Land Pattern
9mm x 14mm Body Size