

VFJA1491C

Jitter Attenuator / Clock Generator

Features

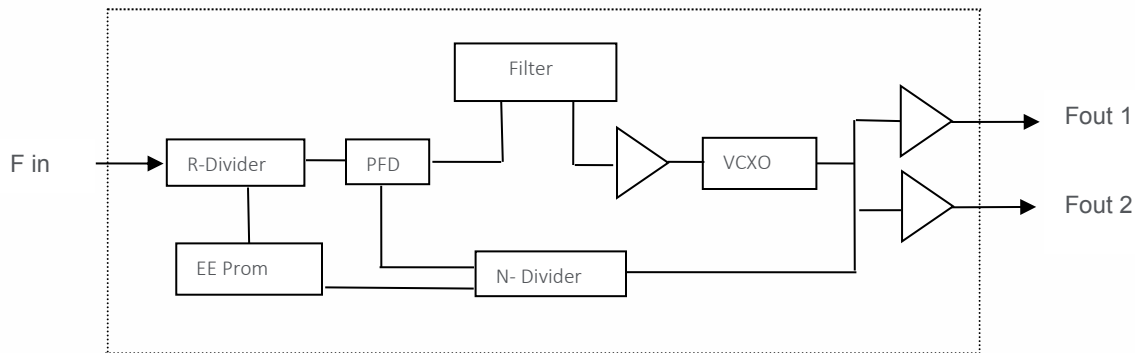
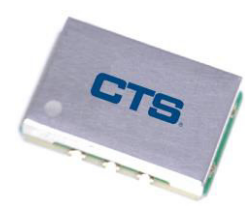
- Frequency Range 10MHz to 200 MHz
- 14mm x 9mm Surface Mount Package
- Dual LVCMOS Outputs
- Low Jitter/Phase Noise
- Tape and Reel Packaging

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}	$R_L = 10K \Omega // 10pF$	$.9 V_{CC}$		V_{CC}	V	
	V_{OL}		0		$.1V_{CC}$	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 $F_o < 50MHz$		12kHz to 20 MHz		190	220	fs	
Jitter $F_o > 100 MHz$				85	100		
SSB Output Phase Noise @ 25 MHz	Φ_n	100 Hz offset		-117		dBc/Hz	
		1K Hz offset		-132			
		10K Hz offset		-153			
		100K Hz offset		-160			
		1M Hz offset		-161			
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	

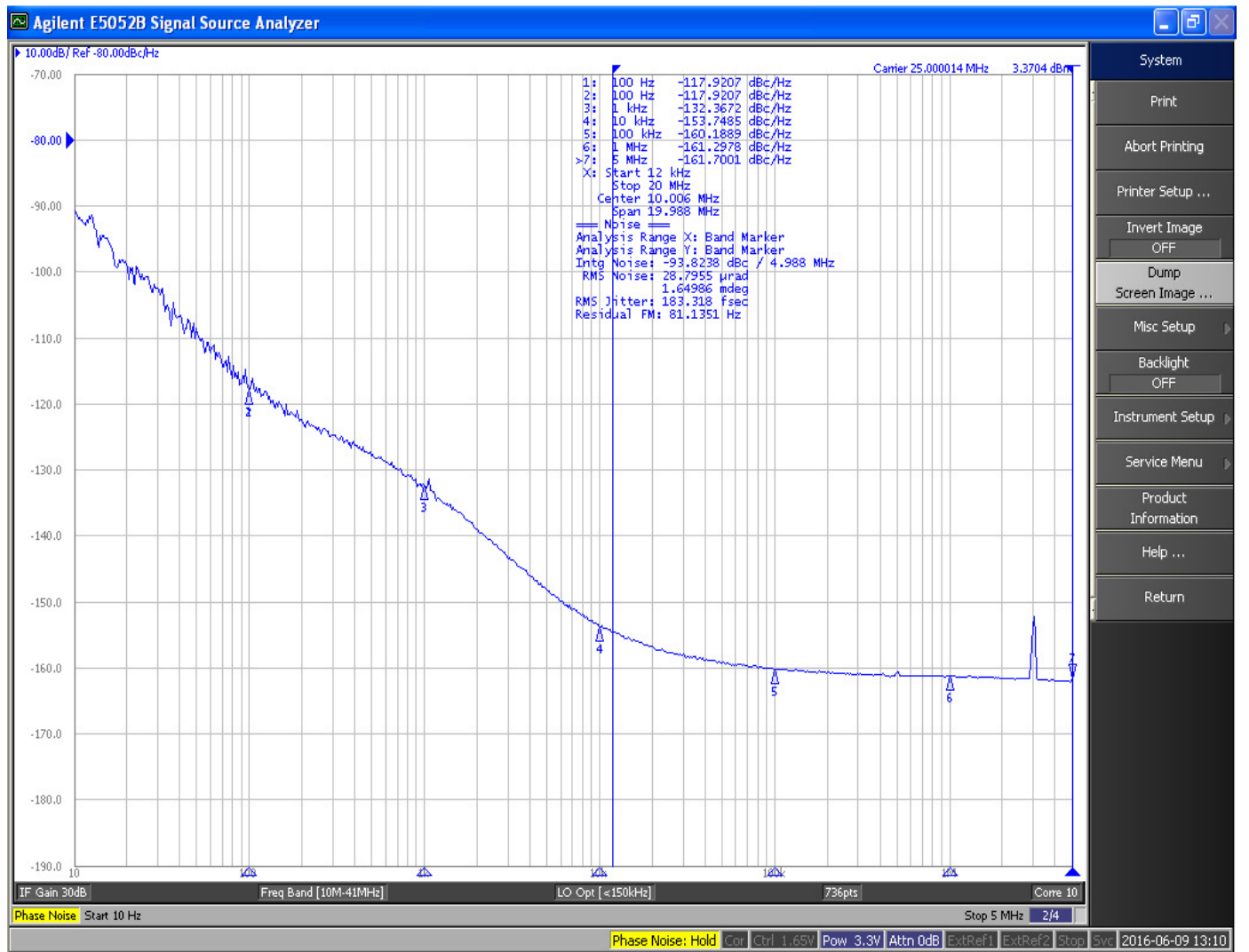
Absolute Maximum Ratings

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 = 25.00 MHz



Notes:



Standard Frequencies

Part Number	Output Frequency	Input Frequency	Loop BW
VFJA1491C-125.000M-25.000M	125.00 MHz	25.00 MHz	15 Hz
VFJA1491C-100.000M-10.000M	100.00 MHz	10.00 MHz	15 Hz
VFJA1491C-25.000M-25.000M	25.00 Mhz	25.00 MHz	35 Hz

Consult factory for more frequency and bandwidth options.

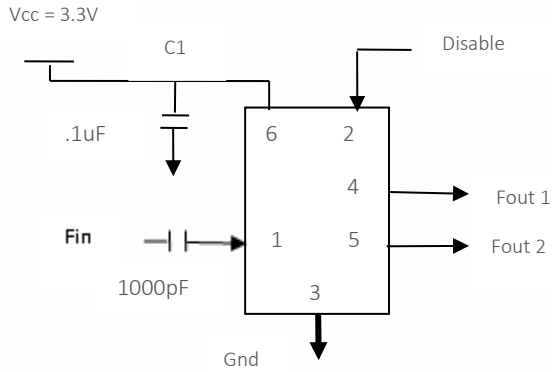
How to Order

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

Marking

<p>VFJA1491C xxx.xxx MHz (Fout) xxx.xxx MHz (Fin) ● XXYY (Date)</p>
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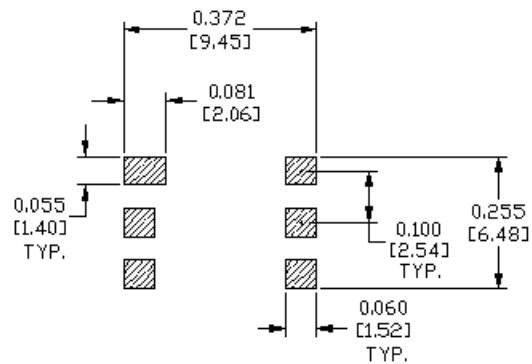
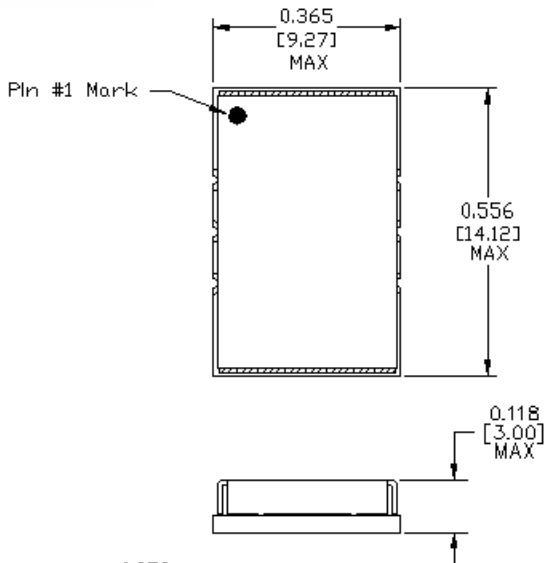
Connection Diagram



Pin Assignments

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

Mechanical Specifications



PCB Land Pattern
9mm x 14mm Body Size

