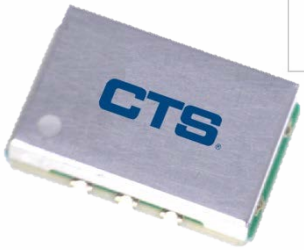
VFJA1491C

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



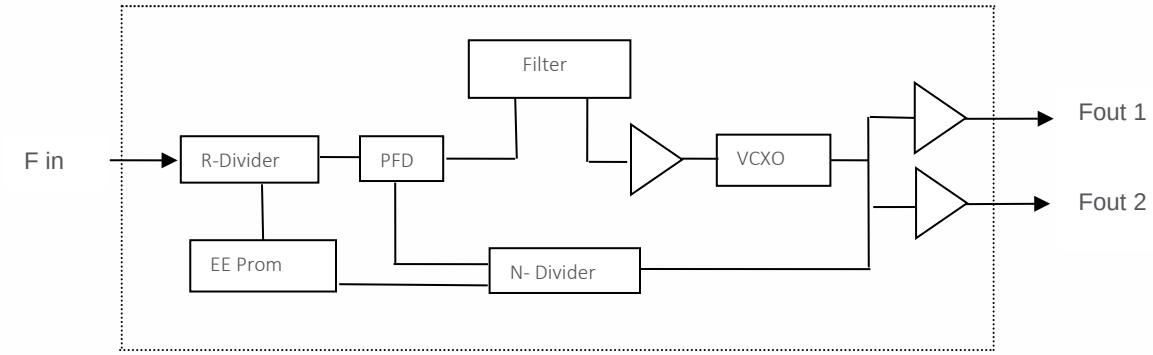
Dimensions: 14.12 x 9.27 x 3 mm

Applications

- Telecom Switching
- Wireless Communication
- Timing over Packet

Description

The VFJA1491C 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 VFJA1491C 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 Ω //10pF	.9 Vcc		Vcc	V
	V_{OL}		0		.1Vcc	V
Duty Cycle		@ 50% Vout (p-p)	45		55	%
Rise / Fall Times	Tr/Tf	20% to 80%			0.5	ns
Lock Range	APR	50M > Fout > 125M	±20			ppm
Lock Range	APR	51M < Fout < 125M	±15			ppm
Modulation BW	MBW		10			Hz
Operating Temperature Range	Ta		-40		+85	°C
Jitter Fo < 50MHz		12kHz to 20 MHz		190	300	fs
Jitter Fo >100 MHz				85	100	
SSB Output Phase Noise @ 25 MHz	Φn	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				LVCMOS
Enable / Disable Time					100	ns

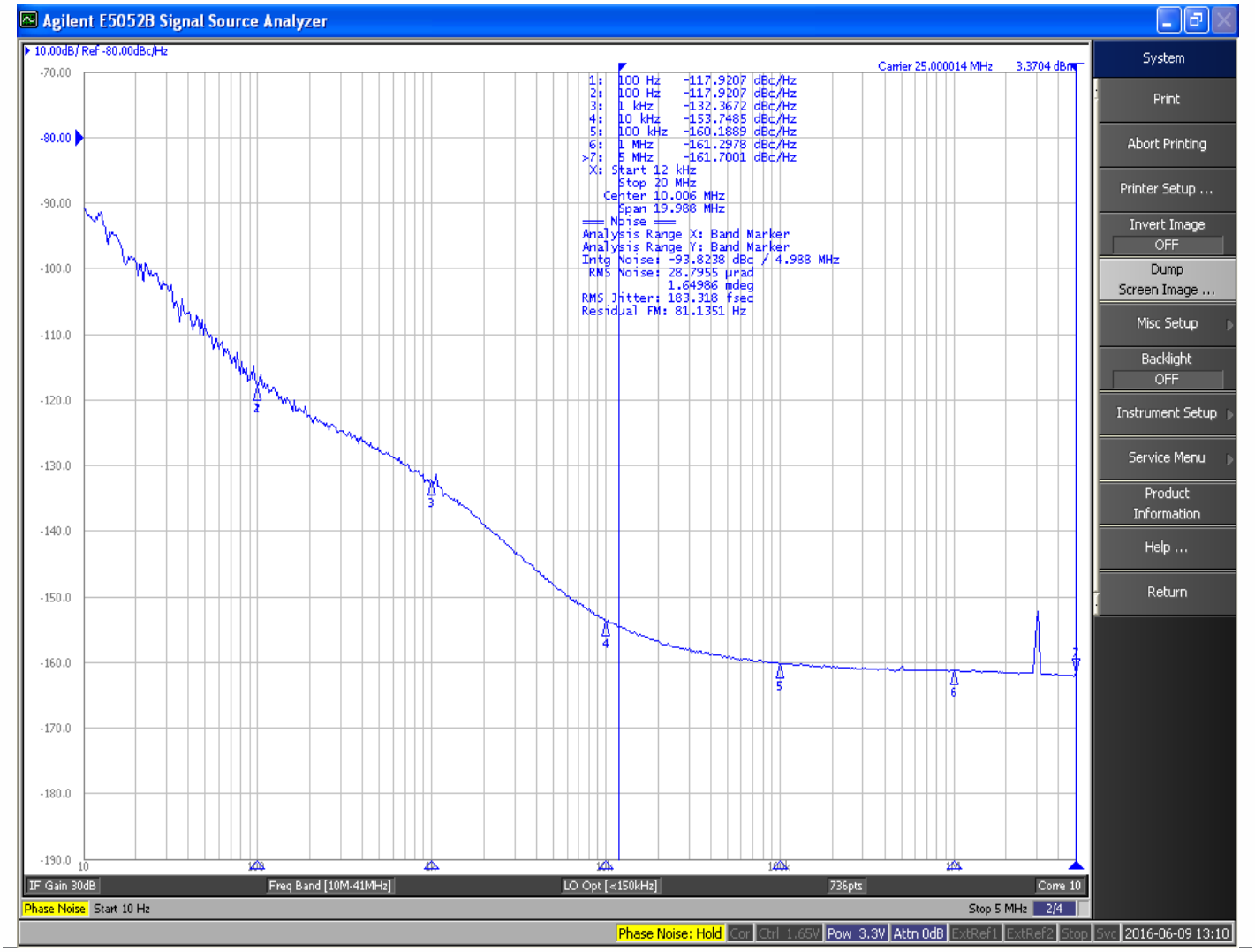
Absolute Maximum Ratings

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 = 25.00 MHz



Standard Frequencies

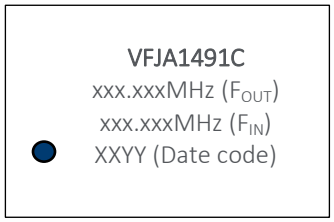
Part Number	Output Frequecy	Input Frequency	Loop BW
VFJA1491C-125M-25M	125.00 MHz	25.00 MHz	15 Hz
VFJA1491C-100.0M-40.0M	100.00 Mhz	10.00 MHz	15 Hz
VFJA1491C-25.0M-25.0M	25.00 Mhz	25.00 MHz	35 Hz
VFJA1491C-25.0M-40.0M	25.00 Mhz	40.00 MHz	25 Hz
VFJA1491C-40.0M-40.0M	40.00 Mhz	40.00 MHz	15 Hz

Consult factory for more frequency and bandwidth options.

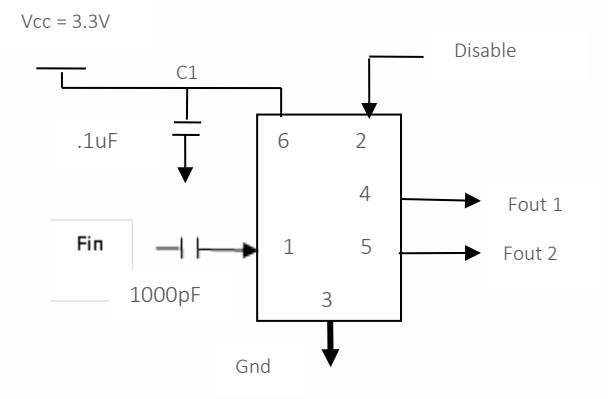
How to Order

Model Number		Output Frequency		Input Frequency
VFJA1491C	—	XXX.XXX M	—	XXX.XXX M

Marking



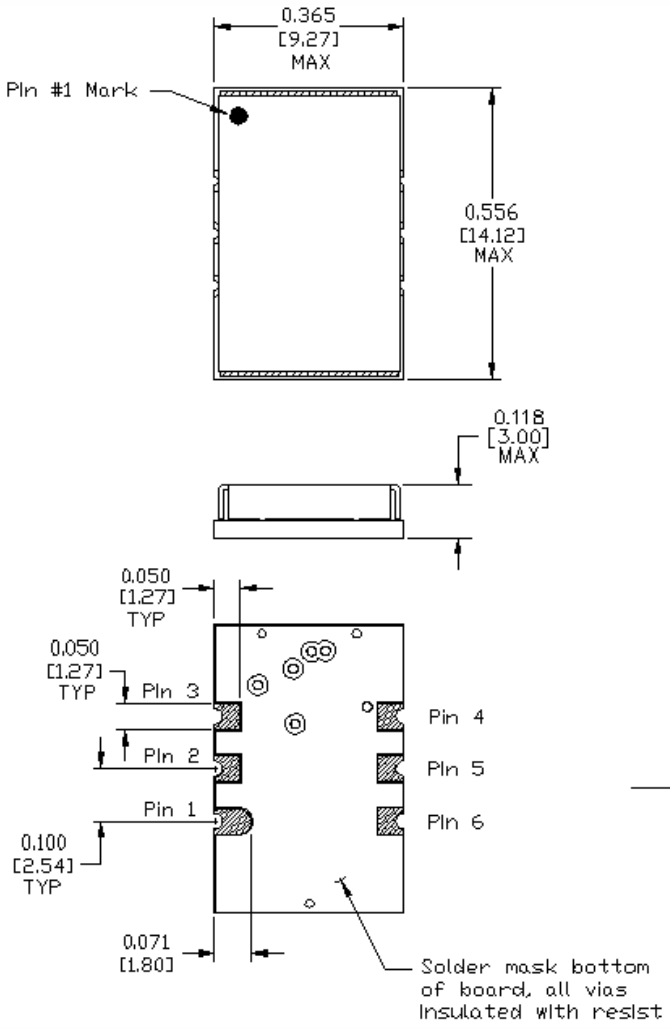
Connection Diagram

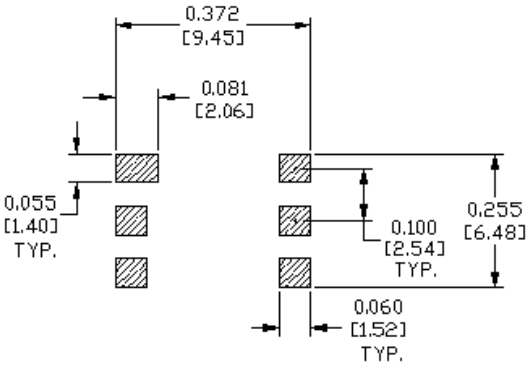


Pin Assignments

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