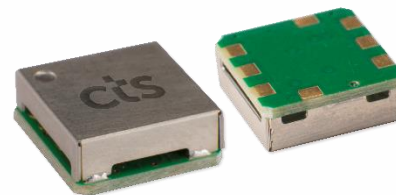


VFJA9591C

Jitter Attenuator / Clock Generator

Features

- Output Frequency Range 10MHz to 160 MHz
- Input Frequency Range 10 MHz to 200 MHz
- 9.5mm x 9.1mm Surface Mount Package
- Dual LVCMOS Outputs
- Lock detect
- Low Jitter/Phase Noise



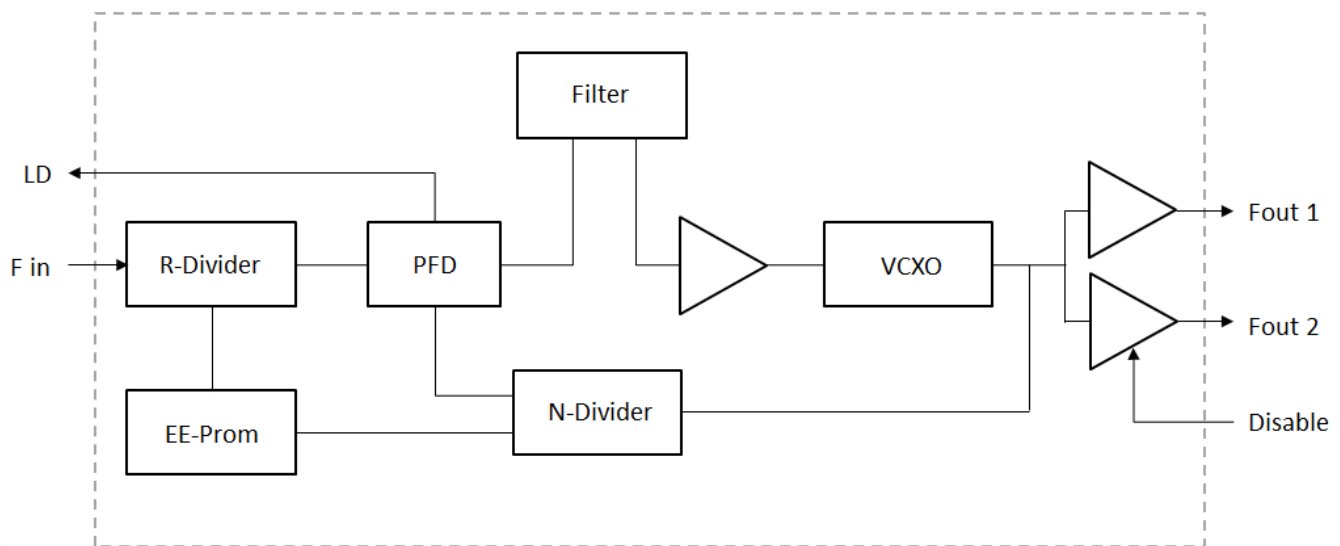
Dimensions: 9.5 x 9.1 x 3.5

Applications

- Telecom Switching
- Wireless Communication
- Timing over Packet

Description

The VFJA9591C is a Jitter Attenuator which accepts an input reference clock up to 200 MHz and provides an output frequency up to 160 MHz. The output frequency is determined by a VCXO designed for low phase noise. The VFJA9591C is available in a 9.5 mm x 9.1 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	-	160	MHz
Output Voltage Levels	V _{OH} V _{OL}	R _L = 10K Ω //10pF	.9 V _{cc} 0	-	V _{cc} 0.1V _{cc}	Vdc
Duty Cycle		@ 50% Vout (p-p)	45	-	55	%
Rise / Fall Times	Tr/Tf	20% to 80%	-	-	0.5	ns
Lock Range	APR		-	±150	-	ppm
Modulation BW	MBW		-	15	-	Hz
Operating Temperature Range	Ta		-40		+85	°C
Jitter (12kHz to 20Mhz)		F _O < 50MHz	-	190	300	fs
		F _O < 100MHz	-	85	100	
SSB Output Phase Noise @ 25 MHz	Φ _n	100 Hz offset	-	-115	-	dBc/Hz
		1K Hz offset	-	-135	-	
		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	Vdc
Input Current			-	60	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

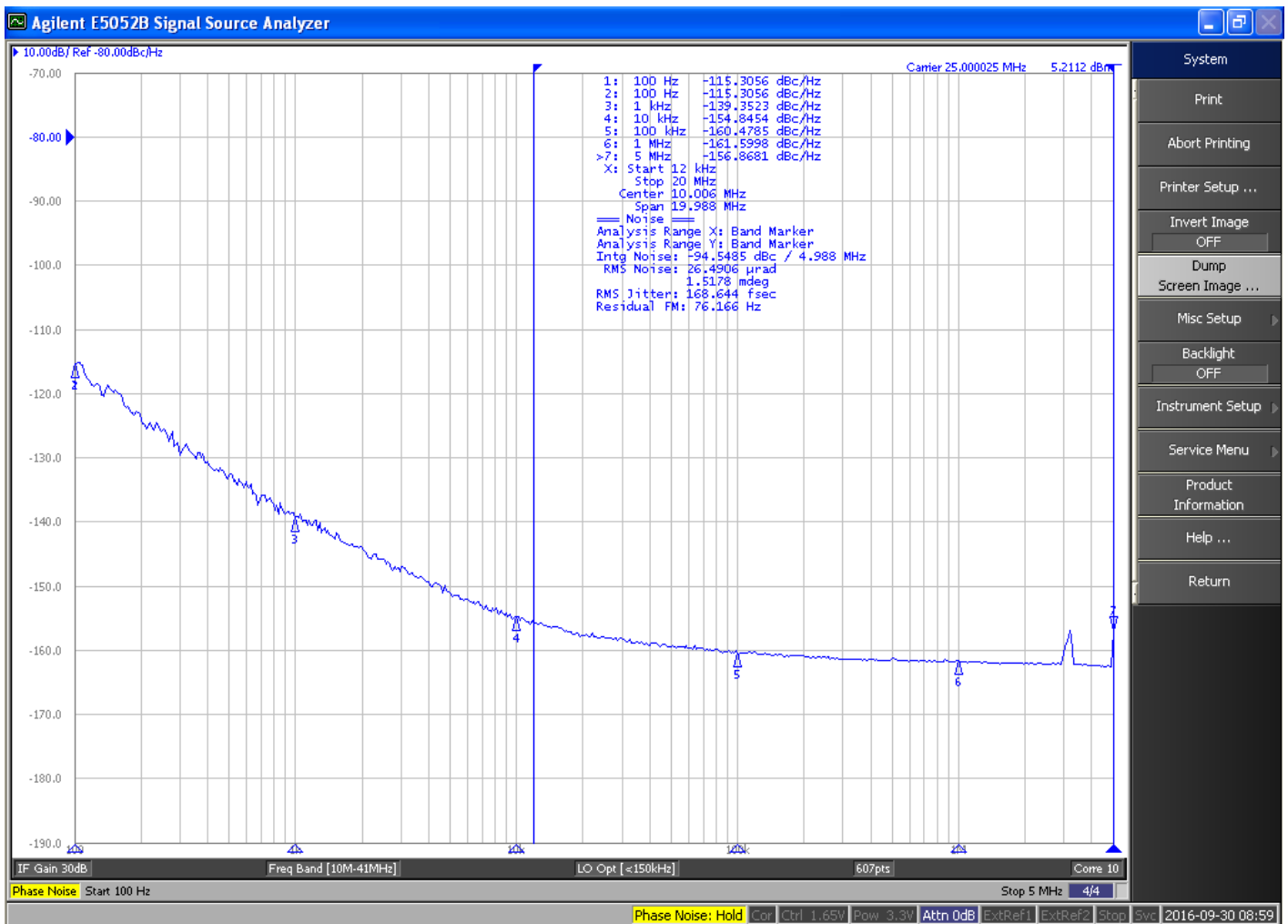
Absolute Maximum Ratings

Parameter	Conditions & Remarks	Min	Typical	Max	Unit
Supply Breakdown Voltage	V _{cc}	-0.5	-	+4.0	Vdc
Storage Temperature	T _s	-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 = 25.00 MHz



Standard Frequencies


Part Number	Output Frequency	Input Frequency
VFJA9591C-25.000M-25.000M	25.000 Mhz	25.000 MHz
VFJA9591C-25.000M-40.000M	25.000 Mhz	40.000 MHz
VFJA9591C-40.000M-25.000M	40.000 MHz	25.000 MHz
VFJA9591C-40.000M-40.000M	40.000 Mhz	40.000 MHz

Consult factory for more frequency options

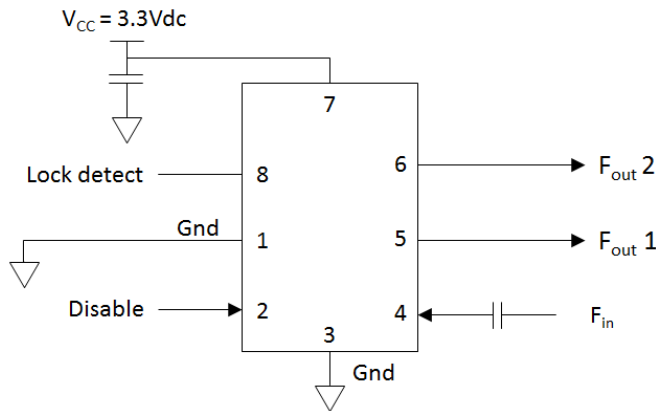
How to Order

Model Number	Output Frequency	Input Frequency
VFJA9591C	— XXX.XXX M	— XXX.XXX M

Marking

<p>VFJA9591C xxx.xxxMHz (F_{OUT}) xxx.xxxMHz (F_{IN}) XXX (Date code)</p> 

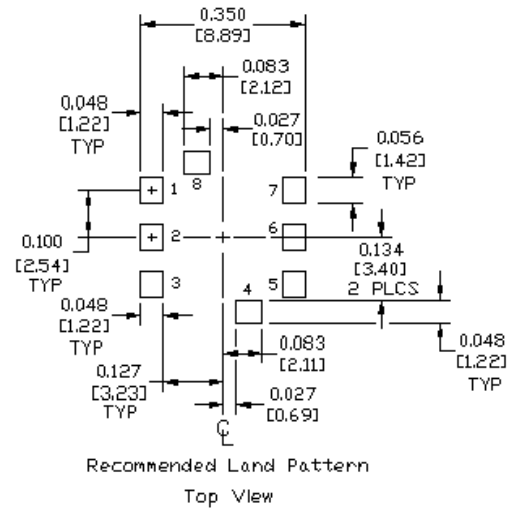
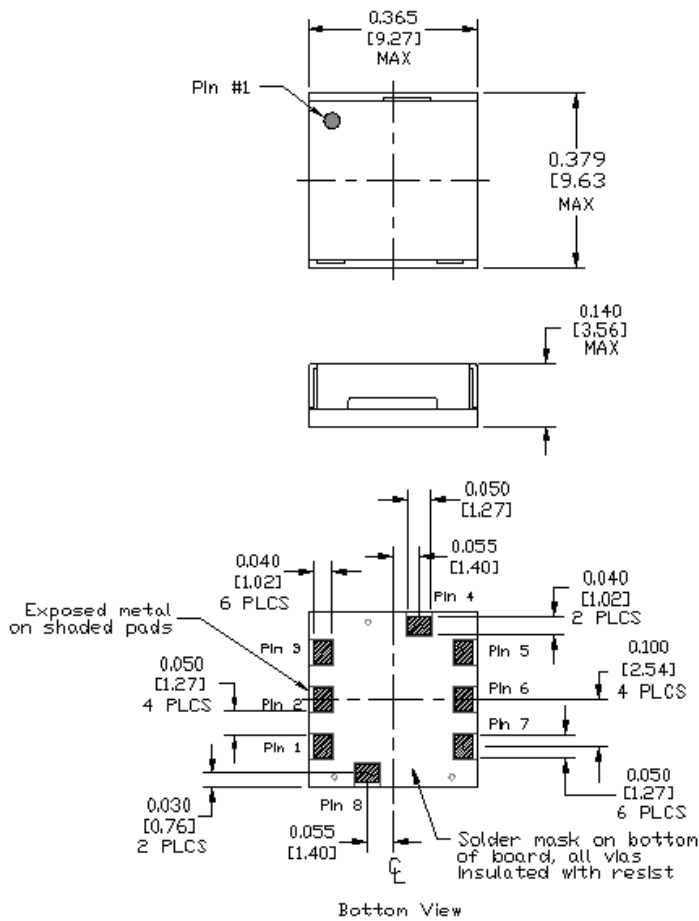
Connection Diagram



Pin Assignments

Pin #	Connection
1	Gnd
2	Disable
3	Gnd
4	F _{in}
5	F _{out 1}
6	F _{out 2}
7	Vcc
8	Lock Detect

Mechanical Specifications



This product is specified for use only in standard commercial applications. Supplier disclaims all express and implied warranties and liability in connection with any use of this product in any non-commercial applications or in any application that may expose the product to conditions that are outside of the tolerances provided in its specification.