Si50122-Ax-EVB

Si50122-Ax-EVB User's Guide

Description

Si50122-Ax is a high performance, crystal-less PCIe clock generator with internal CMEMS that can generate two 100 MHz HCSL and one 25 MHz LVCMOS clock outputs.

This document is intended to be used in conjunction with the Si50122-Ax-EVB, Si50122 device, and data sheet for the following tests:

- PCIe Gen 1, Gen 2, Gen 3 compliancy
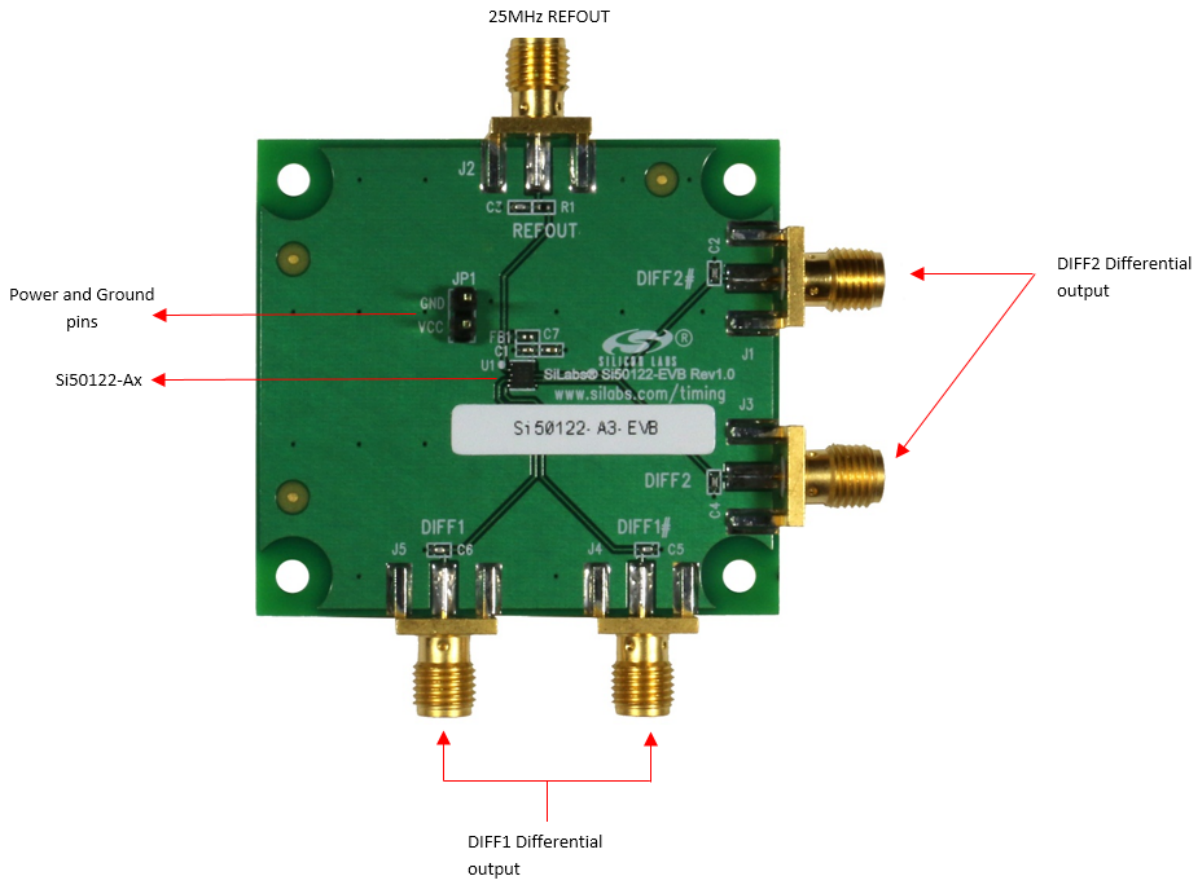- Power consumption test
- Jitter performance

The Si50122-Ax-EVB is used to evaluate the Si50122-Ax. Table 1 shows the device part number and corresponding evaluation board part number.

Table 1. Evaluation Board Orderable Part Number

Device Part Number	PCIe Compliant	Spread Spectrum	EVB Orderable Part Number
Si50122-A1-GM	Gen 1	No	Si50122-A3-EVB
Si50122-A2-GM	Gen 1	Yes	Si50122-A4-EVB
Si50122-A3-GM	Gen 1/2	No	Si50122-A3-EVB
Si50122-A4-GM	Gen 1/2	Yes	Si50122-A4-EVB
Si50122-A5-GM	Gen 1/2/3	No	Si50122-A5-EVB
Si50122-A6-GM	Gen 1/2/3	Yes	Si50122-A6-EVB

1. Front Panel

25MHz REFOUT

Power and Ground pins

Si50122-Ax

DIFF2 Differential output

DIFF1 Differential output

Figure 1. Evaluation Module Front Panel

To use Si50122-Ax-EVB:

1. Check to confirm that the device part number to be evaluated corresponds to the evaluation board – refer to Table 1.
2. Power up the EVB using the VCC and GND pins.
3. View and measure the outputs via the SMA connectors.
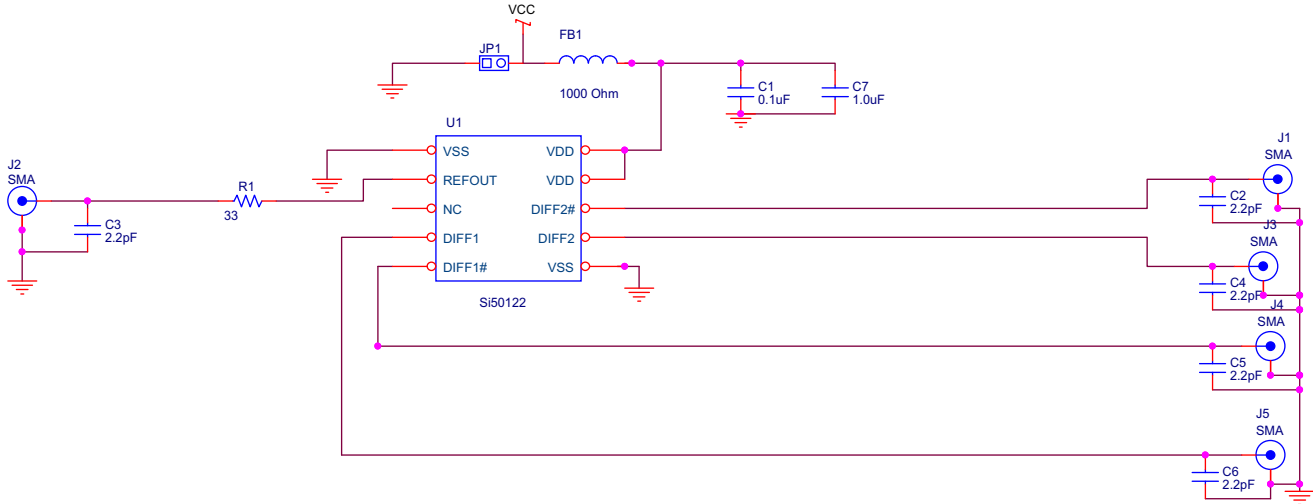
2. Schematics

Figure 2. Si50122 Device Connection

3. Bill of Materials

Item	Qty	Ref	Part	Rating	Tol	PCB Footprint	Manufacturer Part Number	Mfr
1	1	C1	0.1 µF	16 V	±10%	0402	C0402X7R160-104K	Venkel
2	4	C2	2.2 pF	50 V	±0.1 pF	0402	C0402C0G500-2R2B	Venkel
		C3	2.2 pF					
		C4	2.2 pF					
		C5	2.2 pF					
		C6	2.2 pF					
3	2	JP1	HEADER 1x2	NA	NA	NA	TSW-102-07-G-S	Samtec
4	5	J1	SMA	NA	NA	NA	142-0701-801	Johnson Components
		J2	SMA					
		J3	SMA					
		J4	SMA					
		J5	SMA					
5	1	C7	1 µF	6.3 V	±10%	0402	C0402X5R6R3-105K	Venkel
6	1	R1	33 Ω	1/16 W	±5%	0402	CR0402-16W-330J	Venkel
7	1	FB1	1000 Ω	200 mA		0402	BLM15AG102SN1	Murata
8	1	U1	Si50122	NA	NA	3X3 10-TDFN	Si50122	Si Labs

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