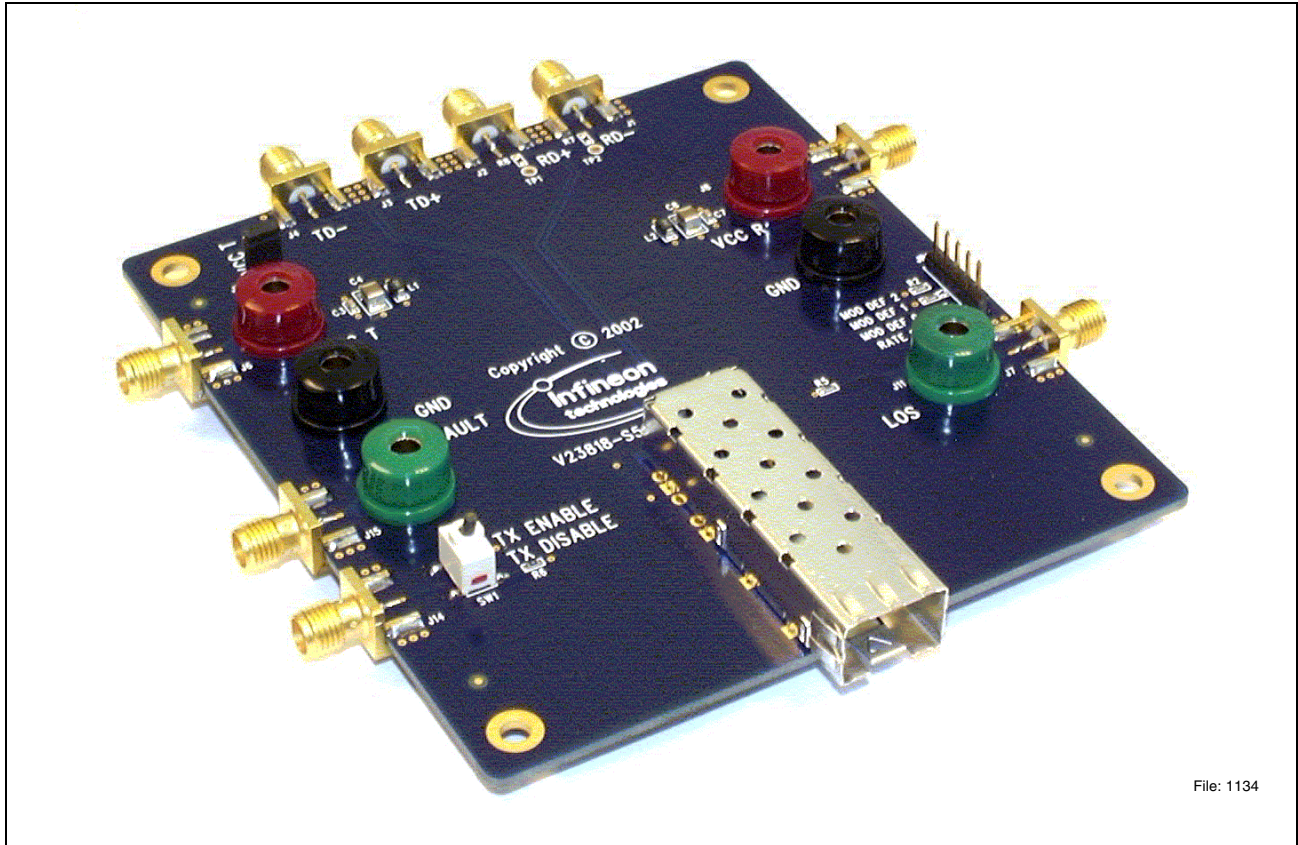


**Small Form-factor Pluggable (SFP)
Evaluation Board**

V23818-S5-V2



File: 1134

Figure 1 Evaluation Board

Features

- Allows evaluation of both standard and Intelligent type Infineon SFP transceivers¹⁾
- Allows separate as well as common powering of receiver and transmitter sections
- Power supply is filtered separately for Rx and Tx side
- Power supply and functions through SMA or banana plug connectors
- All inputs and outputs are AC coupled for easy connection to 50 Ω environment
- All high speed inputs are built with high performance SMA connectors
- Transmitter enable/disable via on-board switch

¹⁾ For evaluation of Digital Diagnostic Monitoring functions use Evaluation Kit V23848-S5-V4.

Overview

This evaluation board is designed to assist in the evaluation of optical transceivers for data rates from 100 MBd to up to 2.5 GBd. The evaluation board can be used to characterize the performance of these transceivers. All AC parameters (eye pattern, rise and fall times, jitter etc.) can be measured with this evaluation board.

This data sheet describes the structure of the evaluation board for its use with SFP transceivers. For additional information, refer to the transceiver data sheet itself.

Structure

The evaluation board is built as a 4-layer PCB (printed circuit board) with internal V_{CC} and V_{EE} planes which build a high performance capacitor for filtering the incoming V_{CC} . The additional power supply filtering will simulate a filter that might be used in the application.

All high speed inputs and outputs are created as $50\ \Omega$ traces on the PCB.

This evaluation board should be used with a positive power supply (V_{CC}) in the range of 3.1 V to 3.5 V.

Description
Description

All inputs, outputs and parts are labeled on the board.

The following table defines the labels and describes each function in more detail.

Connector Description

Reference	Type	Label	Level	Description
J1	SMA	RD+	LVPECL	Receiver differential outputs ¹⁾
J2	SMA	RD-	LVPECL	Receiver differential outputs ¹⁾
J3	SMA	TD+	LVPECL	Transmitter differential inputs ¹⁾
J4	SMA	TD-	LVPECL	Transmitter differential inputs ¹⁾
J5	SMA	V _{CC} R	3.3 V	Apply V _{CC} on signal conductor, GND on shield ^{1) 2)}
J6	SMA	V _{CC} T	3.3 V	Apply V _{CC} on signal conductor, GND on shield ^{1) 2)}
J7	SMA	LOS	LVTTTL	Output. Loss of signal ¹⁾
J8	Banana Jack	V _{CC} R	3.3 V	Apply V _{CC} here, GND at J12 ^{1) 2)}
J9	Banana Jack	V _{CC} T	3.3 V	Apply V _{CC} here, GND at J16 ^{1) 2)}
J10	Banana Jack	TX FAULT	LVTTTL	Transmitter fault indication ¹⁾
J11	Banana Jack	LOS	LVTTTL	Output. Loss of signal ¹⁾
J12	Banana Jack	GND	0 V	Apply GND here, V _{CC} at J8 ^{1) 2)}
J13	HBC	n/a	n/a	Host board connector
J14	SMA	TX ENABLE / TX DISABLE	LVTTTL	Input. Transmitter enable / disable ¹⁾
J15	SMA	TX FAULT	LVTTTL	Output. Transmitter Fault Indication ¹⁾
J16	Banana Jack	GND	0 V	Apply GND here, V _{CC} at J9 ^{1) 2)}
SW1	Switch	TX ENABLE / TX DISABLE	LVTTTL	Input. Transmitter enable / disable. ¹⁾
JP1	Jumper	V _{CC} R / V _{CC} T	3.3 V	Set jumper to connect V _{CC} R and V _{CC} T
JP2-1	5-pin Connector	RATE SELECT	LVTTTL	Rate selection between 1X / 2X

Description

Connector Description (cont'd)

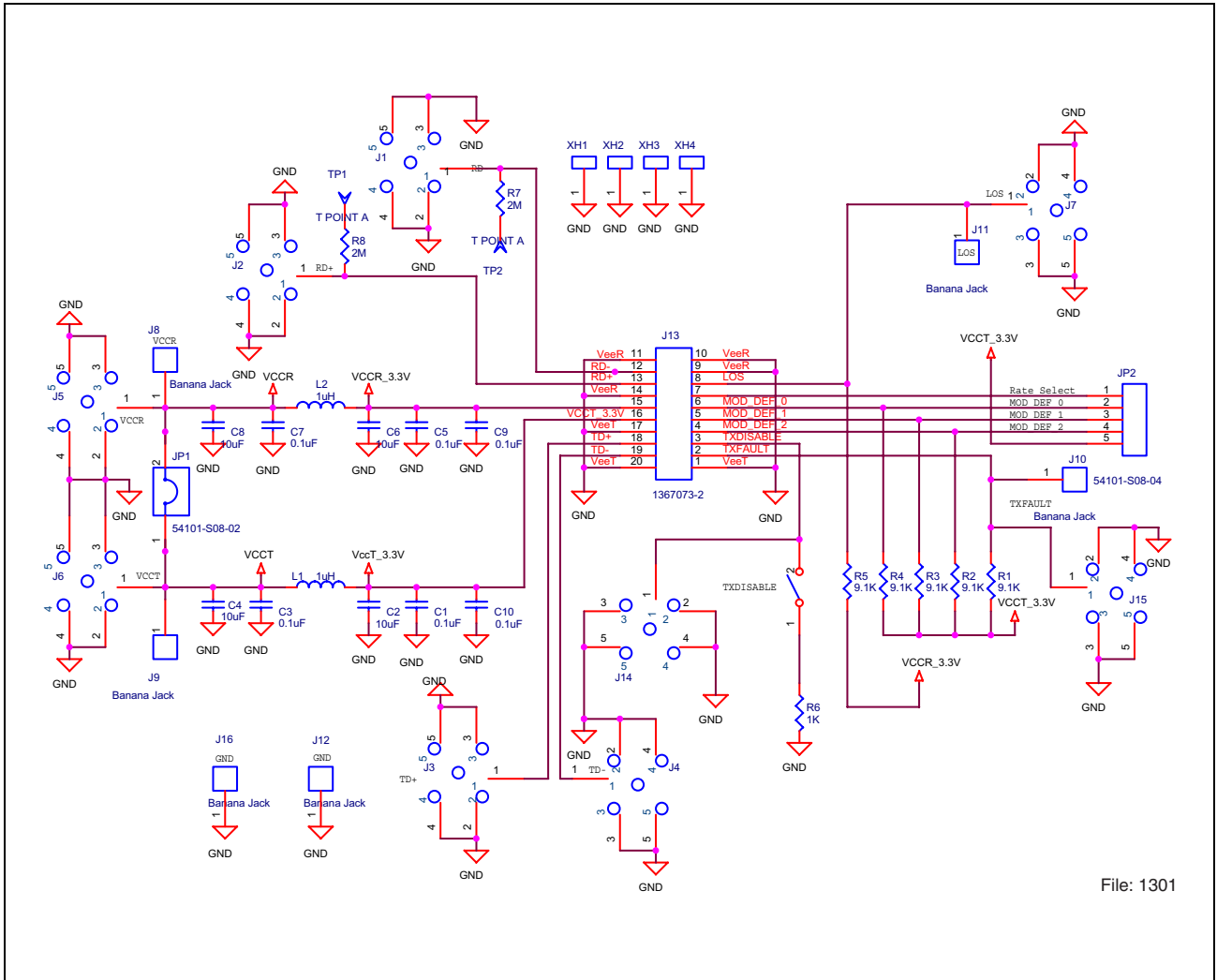
Reference	Type	Label	Level	Description
JP2-2	5-pin Connector	MOD DEF 0	n/a	Module Definition 0, grounded by module to indicate module is present
JP2-3	5-pin Connector	MOD DEF 1	LVTTL	Module Definition 1, clock line of 2-wire serial interface to EEPROM
JP2-4	5-pin Connector	MOD DEF 2	LVTTL	Module Definition 2, data line of 2-wire serial interface to EEPROM
JP2-5	5-pin Connector	n/a	3.3 V	Connected to $V_{CC T}$
TP1	Test Point	n/a	n/a	Receiver differential outputs test point
TP2	Test Point	n/a	n/a	Receiver differential outputs test point

¹⁾ Refer to transceiver data sheet for minimum / maximum levels.

²⁾ Supply power at either SMA or Banana Jack connectors.

The schematic of the evaluation board (**Figure 2**) gives a better understanding of the function of the evaluation board.

Description



File: 1301

Figure 2 Circuit Diagram of Evaluation Board

Previous Version:

Page	Subjects (major changes since last revision)

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