25G LR Lite SFP28 Optical Transceiver

Product Features

- Compliant to the IEEE802.3cc, SFF-8472, SFF-8431 and SFF-8432
- Supports 9.8304Gbps,10.1376Gbps,10.3125Gbps,24.33024Gbps and 25.78125Gbps for 25G Ethernet, CPRI and eCPRI application1310nm DFB transmitter and PIN receiver
- Single +3.3V power supply, and maximum power dissipation 1.0W
- Ultra cost effective based on innovative COB based design
- Operation case temperature -40~85°C for Industrial
- Up to 300m transmission on SMF
- RoHS compliance, and Class 1 laser safety

Operating Conditions

Parameter	Unit	Min.	Typical	Max.
Storage Temperature	°C	-40		85
Operating Case Temperature	°C	-40		85
Power Supply Voltage	V	3.135	3.3	3.465
Power Supply current	mA			300
Power Consumption	W			1

Characteristics

All performance is specified at whole working temperature and conditions

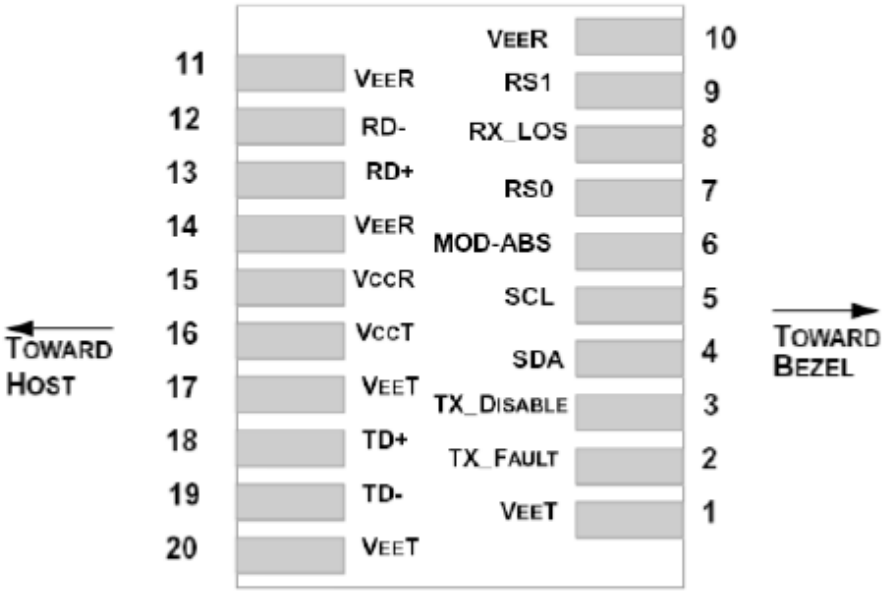
Parameter	Unit	Min.	Typical	Max.
Transmitter				
TX Central Wavelength	nm	1260	1310	1360
Data Differential Impedance	Ω	90	100	110
Mean Launched Power	dBm	-7		2
Mean Launched Power (TX Off)	dBm			-30
Extinction Ratio	dB	3.5		
Mask margin*Note1	%	5		
Spectral Width	nm			4
Transmitter and dispersion Penalty	dB			1
Receiver				
Receive Wavelength	nm	1260		1360
Data Differential Impedance	Ω	90	100	110
Data Output Swing Differential	mV	450		750
Sensitivity (OMA)*Note2	dBm			-8.5
Saturation Power	dBm	2		
LOS De-assert Level	dBm			-14
LOS Assert Level	dBm	-27		
LOS Hysteresis	dB	0.5		

Note1: 24.33024Gb/s 、25.78125Gb/s，PRBS31 NRZ，Mask reference to the definition of the above table，use 25GBASE-LR filter，at least 500waveform，HT, RT, LT must be satisfied. Hit Ratio meet the standard of 5E-5 under margin.9.8304Gb/s，10.1376 Gb/s ，10.3125 Gb/s，PRBS31 NRZ，10GBASE-LR mask and filter，at least 500waveform， HT, RT, LT must be satisfied. Hit Ratio meet the standard of 1E-12 under margin.

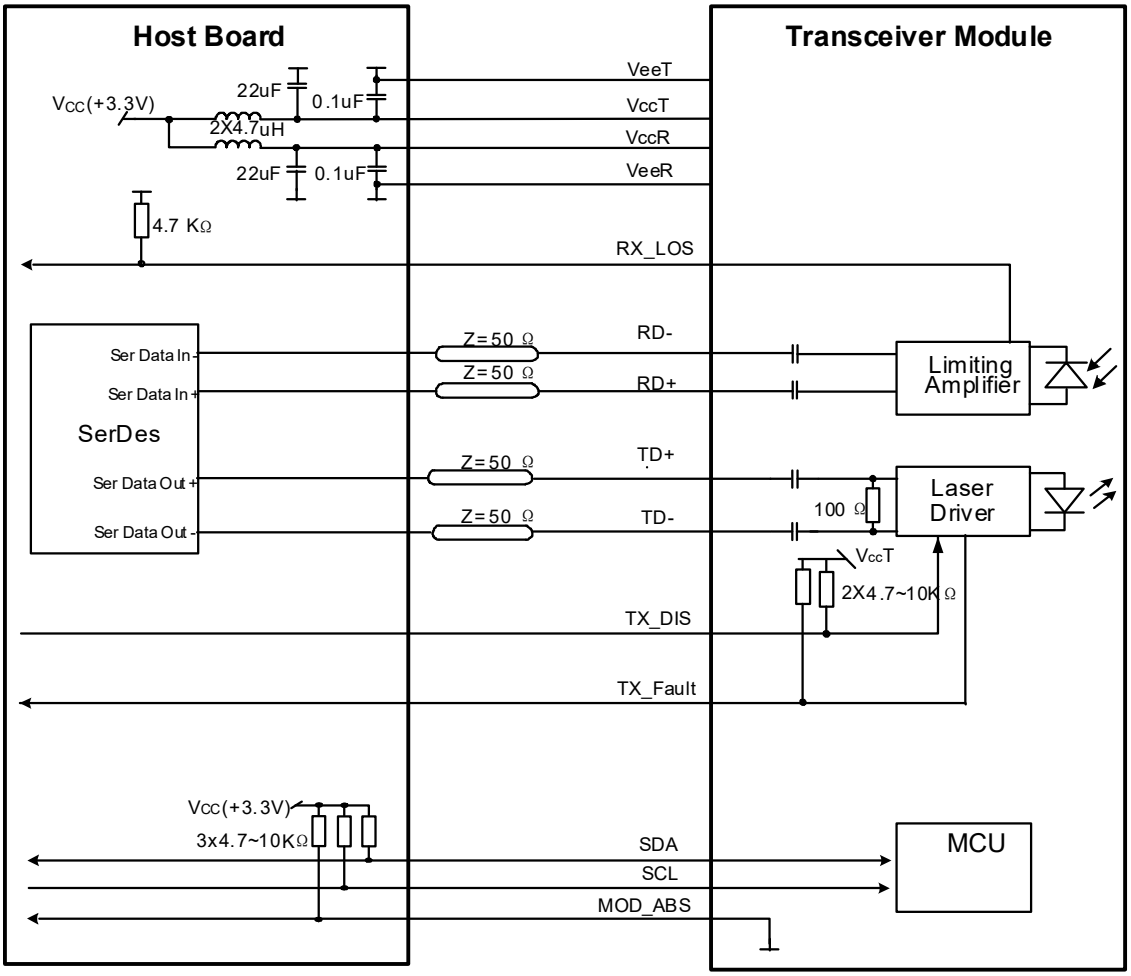
Note2: Measured with 24.33024G、25.78125G，PRBS-31 NRZ, ER>3.5dB, 1260~1360nm, BER<5E-5. Measured with 9.8304G、10.1376G、10.3125G、PRBS-31 NRZ, ER>3.5dB, 1260~1360nm, BER<1E-12

PIN Definition

Pin No.	Symbol	Level / Logic	Description
1	VeeT		Module Transmitter Ground
2	Tx_Fault	LVTTL-O	Module Transmitter Fault Indication
3	Tx_DIS	LVTTL-I	Transmitter Disable; Active High Disable Transmitter Output
4	SDA	LVTTL-I/O	2-Wire Serial Interface Data Line
5	SCL	LVTTL-I	2-Wire Serial Interface Clock
6	MOD_ABS	LVTTL-O	Module Absent, connected to ground in the module
7	RS0		Rate Select 0, optionally controls SFP28 module receiver
8	RX_LOS	LVTTL-O	Loss of Receiver Signal Indication
9	RS1		Rate Select 1, optionally controls SFP28 module transmitter
10	VeeR		Module Receiver Ground
11	VeeR		Module Receiver Ground
12	RD-	CML-O	Receiver Inverted Data Output
13	RD+	CML-O	Receiver Non-Inverted Data Output
14	VeeR		Module Receiver Ground
15	VccR		Module Receiver 3.3V Supply
16	VccT		Module Transmitter 3.3V Supply
17	VeeT		Module Transmitter Ground
18	TD+	CML-I	Transmitter Non-Inverted Data Input
19	TD-	CML-I	Transmitter Inverted Data Input
20	VeeT		Module Transmitter Ground

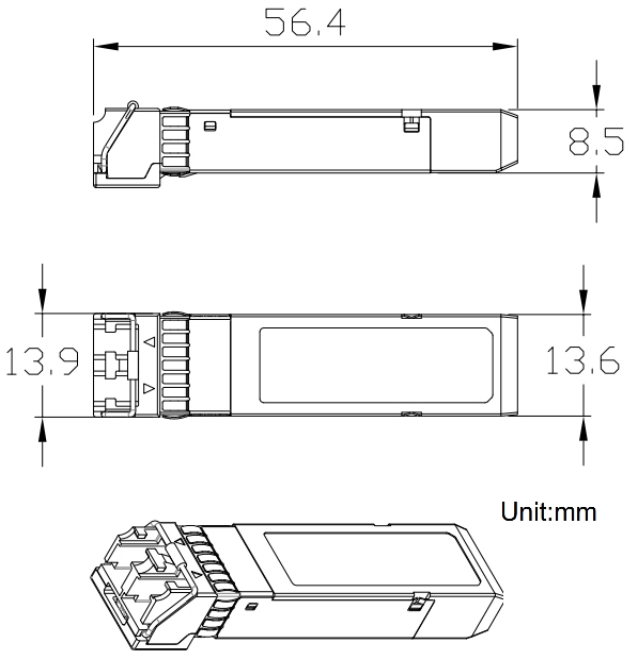


Typical Interface Circuit



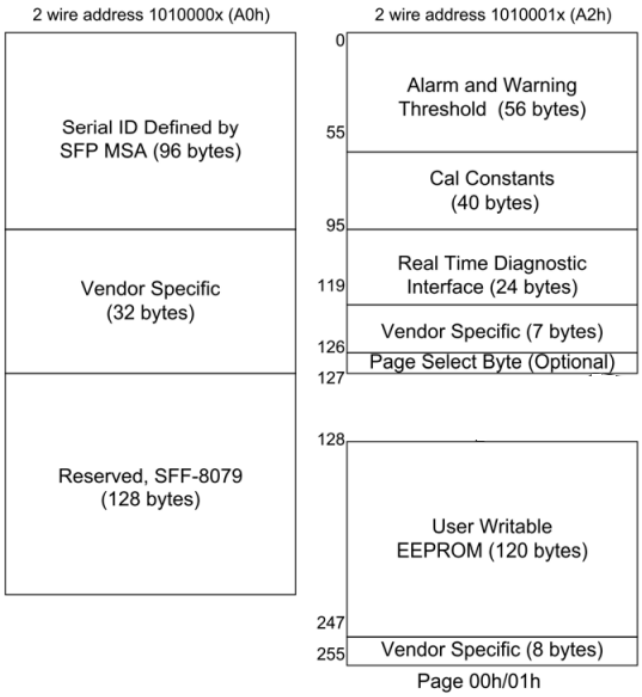
Mechanical Diagram

For detail mechanical information, please refer to the related document of SFF-8432



EEPROM Memory Map

The digital diagnostic memory map specific data field define as following. For detail EEPROM information, please refer to the related document of SFF 8472 Rev 12.0.



ESD

The SFP+ module and host SFI contacts (High Speed Contacts) shall withstand 1kV electrostatic discharge based on Human Body Model and all host contacts with exception of the SFI contacts (High Speed Contacts) shall withstand 2kV electrostatic discharge based on Human Body Model. The SFP+ module shall meet ESD requirements given in EN61000-4-2, criterion B test specification such that units are subjected to 15kV air discharges during operation and 8kV direct contact discharges to the case per section 2.9 in SFF-8431 REV4.1. However, normal ESD precautions are still required during the handling of this module. This transceiver is shipped in ESD protective packaging. It should be removed from the packaging and handled only in an ESD protected environment.

Laser Safety

This is a Class 1 Laser Product according to IEC 60825-1:2007. This product complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated (June 24, 2007).

Ordering Information

Ordering P/Ns	Description
DJ33bb-SLHE	25G LR Lite SFP28 300m , Tx 1310nm, Rx 1310nm, Duplex LC/UPC receptacle connector, Ultra cost effective based on innovative COB based design, -40~85°C Industrial temperature

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