

RDH10281/2-OPC

LG-Ericsson® RDH10281/2 Compatible TAA 25GBase-BX SFP28 Transceiver (SMF, 1330nmTx/1270nmRx, 15km, LC, DOM, -40 to 85C)

Features

- SFF-8402 and SFF-8472 Compliance
- Simplex LC Connector
- Single-mode Fiber
- Industrial Temperature -40 to 85 Celsius
- Hot Pluggable
- Metal with Lower EMI
- Excellent ESD Protection
- RoHS Compliant and Lead Free



Applications:

- 25GBase Ethernet
- Access and Enterprise

Product Description

This LG-Ericsson® RDH10281/2 compatible SFP28 transceiver provides 25GBase-BX throughput up to 15km over single-mode fiber (SMF) using a wavelength of 1330nmTx/1270nmRx via an LC connector. This bidirectional unit must be used with another transceiver or network appliance of complementing wavelengths. It is guaranteed to be 100% compatible with the equivalent LG-Ericsson® transceiver. This easy to install, hot swappable transceiver has been programmed, uniquely serialized and data-traffic and application tested to ensure that it will initialize and perform identically. Digital optical monitoring (DOM) support is also present to allow access to real-time operating parameters. This transceiver is Trade Agreements Act (TAA) compliant. We stand behind the quality of our products and proudly offer a limited lifetime warranty.

Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Maximum Supply Voltage	V _{CC}	-0.3		4.0	V	
Storage Temperature	T _{stg}	-40		85	°C	
Operating Case Temperature	T _c	-40	25	85	°C	
Relative Humidity	RH	5		95	%	
Data Rate	DR		24.33		Gbps	
			25.78		Gbps	

Electrical Characteristics

Parameter		Symbol	Min.	Typ.	Max.	Unit	Notes
Power Supply Voltage		V _{CC}	3.135	3.3	3.465	V	
Power Supply Current		I _{CC}			450	mA	
Power Dissipation		P _{DISS}			1500	mW	
Transmitter							
Input Differential Impedance		Z _{IN}		100		Ω	
Differential Data Input Swing		V _{IN,pp}	180		700	mVp-p	
Tx_Fault	Transmitter Fault	VOH	2.0		Host_Vcc	V	
	Normal Operation	VOL	0		0.8	V	
Tx_Disable	Transmitter Disable	VIH	2.0		Host_Vcc	V	
	Transmitter Enable	VIL	0		0.8	V	
Receiver							
Output Differential Impedance		Z _{OUT}		100		Ω	
Differential Data Output Swing		V _{OUT,pp}	300		850	mVp-p	1
Data Output Rise/Fall Time		Tr/Tf			15	ps	2
Rx_LOS	Loss of Signal (LOS)	VOH	2.0		Host_Vcc	V	3
	Normal Operation	VOL	0		0.8	V	3

Notes:

1. Internally AC coupled but requires an external 100Ω differential load termination.
2. 20-80%.
3. LOS is an open collector output and should be pulled up with 4.7kΩ on the host board.

Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Transmitter						
Launch Optical Power	Po	0		5	dBm	1
Center Wavelength Range	λ_C	1320	1330	1340	nm	
Extinction Ratio	ER	3.5			dB	2
Spectral Width (-20dB)	$\Delta\lambda$			1	nm	
Side-Mode Suppression Ratio	SMSR	30			dB	
Optical Rise/Fall Time @25.78Gbps	Tr/Tf	15			ps	3
Optical Return Loss Tolerance	ORLT			12	dB	
POUT @Tx_Disable Asserted	Poff			-30	dBm	1
Receiver						
Center Wavelength	λ_C	1260	1270	1280	nm	
Receiver OMA Sensitivity	RxSENS1			-18	dBm	4
Receiver OMA Sensitivity	RxSENS2			-14	dBm	5
Receiver Overload (Pavg)	POL	-3			dBm	
Optical Return Loss	ORL	26			dB	
LOS De-Assert	LOSD			-19	dBm	
LOS Assert	LOSA	-35			dBm	
LOS Hysteresis		0.5			dB	

Notes:

1. Class 1 Laser Safety per FDA/CDRH and EN (IEC) 60825 regulations.
2. 20dB spectral width.
3. Unfiltered, 20-80%.
4. Measured with PRBS $2^{31}-1$ at 5×10^{-5} BER.
5. Measured with PRBS $2^{31}-1$ at 1×10^{-12} BER.

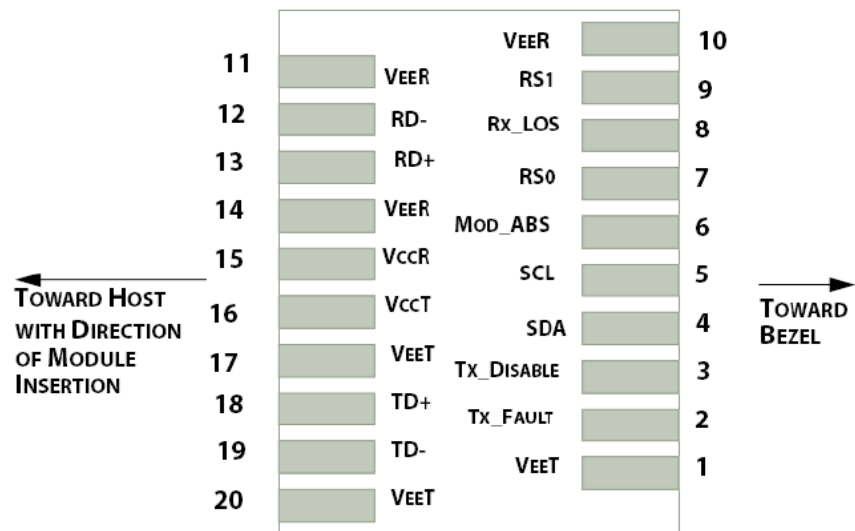
Pin Descriptions

Pin	Symbol	Name/Description	Notes
1	VeeT	Transmitter Ground.	1
2	Tx_Fault	Transmitter Fault. LVTTTL-O. "High" indicates a fault condition.	2
3	Tx_Disable	Transmitter Disable. LVTTTL-I. "High" or "open" disables the transmitter.	3
4	SDA	2-Wire Serial Interface Data. LVCMOS-I/O. MOD-DEF2.	4
5	SCL	2-Wire Serial Interface Clock. LVCMOS-I/O. MOD-DEF1.	4
6	MOD_ABS	Module Absent (Output). Connected to the VeeT or VeeR in the module.	5
7	RS0	N/A.	6
8	Rx_LOS	Receiver Loss of Signal. LVTTTL-O.	2
9	RS1	N/A.	6
10	VeeR	Receiver Ground.	1
11	VeeR	Receiver Ground.	1
12	RD-	Receiver Inverted Data Out. CML-O.	
13	RD+	Receiver Data Out. CML-O.	
14	VeeR	Receiver Ground.	
15	VccR	+3.3V Receiver Power Supply.	
16	VccT	+3.3V Transmitter Power Supply.	
17	VeeT	Transmitter Ground.	1
18	TD+	Transmitter Data In. CML-I.	
19	TD-	Transmitter Inverted Data In. CML-I.	
20	VeeT	Transmitter Ground.	1

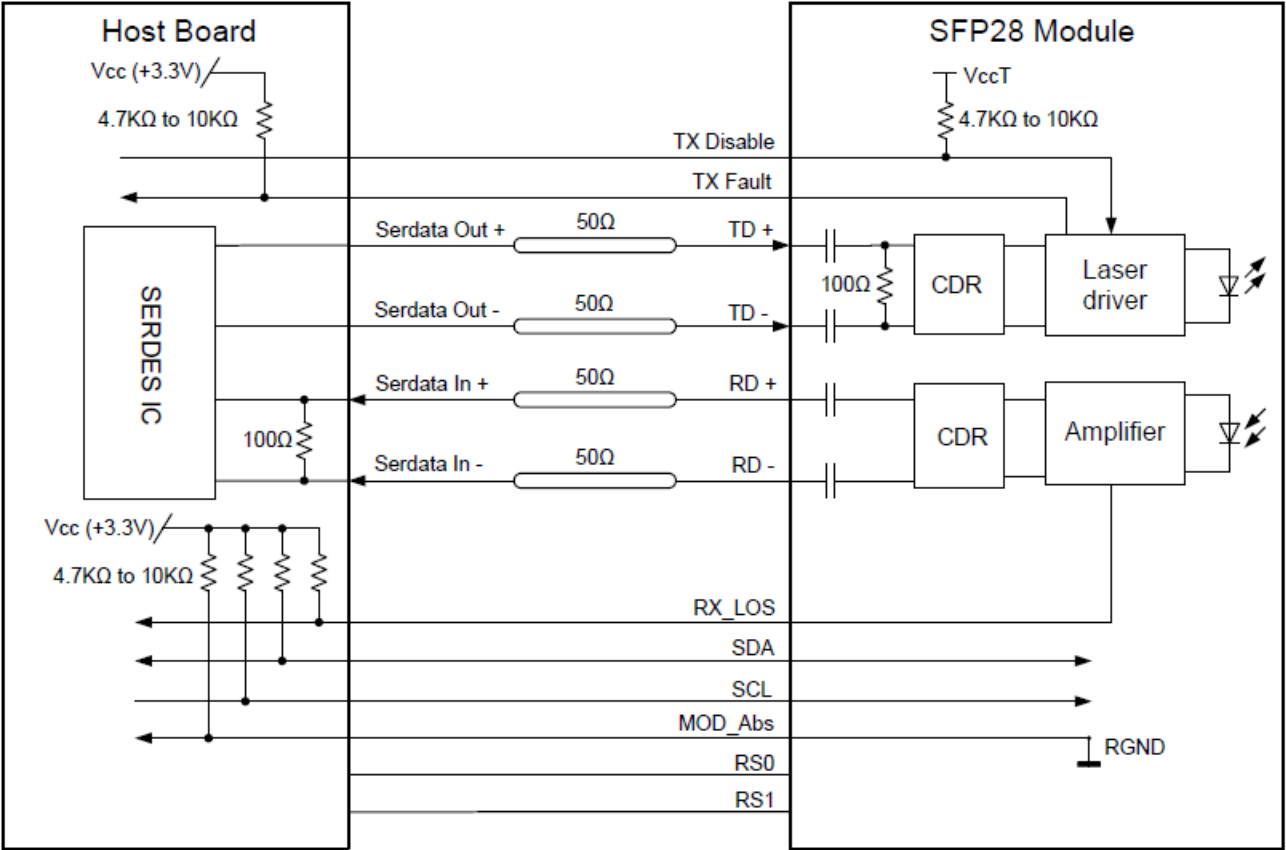
Notes:

1. The module signal grounds are isolated from the module case.
2. This is an open collector/drain output that, on the host board, requires a 4.7k Ω to 10k Ω pull-up resistor to the Host_Vcc.
3. This input is internally biased "high" with a 4.7k Ω to 10k Ω pull-up resistor to the VccT.
4. 2-Wire Serial Interface Clock and Data lines require an external pull-up resistor dependent on the capacitance load.
5. This is a ground return that, on the host board, requires a 4.7k Ω to 10k Ω pull-up resistor to the Host_Vcc.
6. Rate Select can also be set through the 2-wire bus in accordance with SFF-8472 v.12.1m. Rx Rate Select is set at Bit 3, Byte 110, and Address A2h. Tx Rate Select is set at Bit 3, Byte 118, and Address A2h.

Pin Assignments



Block Diagram of Transceiver



Power Supply Filter Network



Mechanical Specifications

