RDH10275/3-OPC

LG-Ericsson® RDH10275/3 Compatible TAA 25GBase-LR SFP28 Transceiver Capable (SMF, 1310nm, 10km, LC, DOM, -40 to 85C)

Features

- SFF-8402 and SFF-8472 Compliance
- Duplex 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® RDH10275/3 compatible SFP28 transceiver provides 25GBase-LR throughput up to 10km over single-mode fiber (SMF) using a wavelength of 1310nm via an LC connector. 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.	Тур.	Max.	Unit	Notes
Supply Voltage	Vcc	-0.5		4.0	V	
Storage Temperature	TS	-40		85	°C	
Operating Case Temperature	Тс	-40	25	85	°C	
Relative Humidity	RH	5		95	%	
Data Rate	BR		25.78		Gb/s	
Bit Error Rate	BER			5x10 ⁻⁵		1
Supported Link Length on 9/125um SMF, 25.78GB/s	L		10		km	2

Notes:

- 1. Tested with a PRBS 231-1 test pattern for 25.78Gb/s operation.
- 2. Distances are based on FC-PI-6 Rev 3.1 and IEEE 802.3 standards.

Electrical Characteristics

Parameter		Symbol	Min	Тур	Max	Unit	Notes
Supply Voltage		Vcc	3.135	3.3	3.465	V	
Data Rate				25.78		GB/s	
Module Supply Current		Icc			450	mA	
Power Dissipation		PD			1500	mW	
Transmitter							
Input Differen	tial Impedance	ZIN		100		Ω	
Differential Data Input Swing		VIN, P-P	180		700	mVP-P	
TX_FAULT	Transmitter Fault	VOH	2.0		VCCHOST	V	
	Normal Operation	VOL	0		0.8	V	
TX_DISABLE	Transmitter Disable	VIH	2.0		VCCHOST	V	
	Transmitter Enable	VIL	0		0.8	V	
Receiver							
Output Differential Impedance		ZO		100		Ω	
Differential Data Output Swing		VOUT, P-P	300		850	mVp-p	1
Data Output Rinse Time, Fall Time		tr, tf	15			Ps	2
Rx_LOS	Loss of Signal (LOS)	VOH	2.0		VCCHOST	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. Should be pulled up with 4.7Ω on the host board.

Optical Characteristics

Parameter Parameter	Symbol	Min	Тур	Max	Unit	Notes
Transmitter						
Launch Optical Power	Ро	-5		2	dBm	1
Extinction Ratio	ER	4			dB	
Center Wavelength Range	λς	1295	1310	1325	nm	
Optical Modulation Amplitude	OMA	631			uW	
Transmitter Dispersion Penalty	TDP			2.7	dB	
Spectral Width	Δλ			1	nm	2
Optical Rise/Fall Time @25.78 Gb/s	tr/tf			15	ps	3
Optical Return Loss Tolerance	ORLT			12	dB	
Pout @TX-Disable Asserted	POFF			-30	dBm	1
Receiver						
Center Wavelength	λς	1260	1310	1370	nm	
Receiver OMA Sensitivity	RxSENS			-11.4	dBm	4
Receiver Overload (P avg)	POL	2			dBm	
Optical Return Loss	ORL	26			dB	
LOS De-Assert	LOSD			-13	dBm	
LOS Assert	LOSA	-30			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 2³¹-1 at 5×10⁻⁵ BER

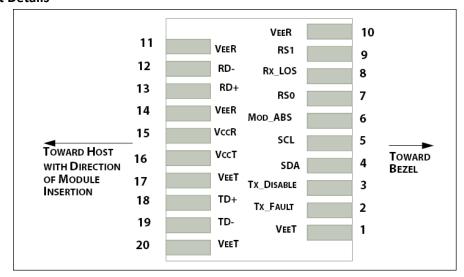
Pin Descriptions

Pin	Symbol	Name/Descriptions	Notes
1	VeeT	Transmitter Ground	1
2	TX_Fault	Transmitter Fault (LVTTL-O) - High indicates a fault condition	2
3	TX_Disable	Transmitter Disable (LVTTL-I) – High or open disables the transmitter	3
4	SDA	Two wire serial interface Data Line (LVCMOS-I/O) (MOD-DEF2)	4
5	SCL	Two wire serial interface Clock Line (LVCMOS-I/O) (MOD-DEF1)	4
6	MOD_ABS	Module Absent (Output), connected to VeeT or VeeR in the module	5
7	RSO		6
8	RX_LOS	Receiver Loss of Signal (LVTTL-O)	2
9	RS1		6
10	VeeR	Receiver Ground	1
11	VeeR	Receiver Ground	1
12	RD-	Inverse Received Data out (CML-O)	
13	RD+	Received Data out (CML-O)	
14	VeeR	Receiver Ground	
15	VccR	Receiver Power - +3.3V	
16	VccT	Transmitter Power - +3.3 V	
17	VeeT	Transmitter Ground	1
18	TD+	Transmitter Data In (CML-I)	
19	TD-	Inverse Transmitter Data In (CML-I)	
20	VeeT	Transmitter Ground	1

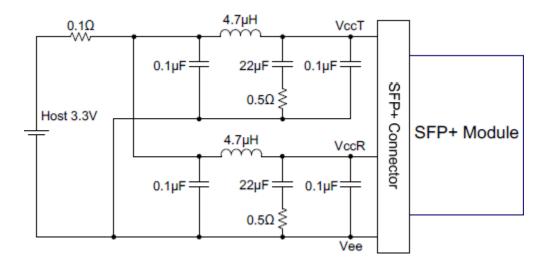
Notes:

- 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 $4.7K\Omega$ to $10K\Omega$ pull-up resistor to VccHost.
- 3. This input is internally biased high with a $4.7K\Omega$ to $10K\Omega$ pull-up resistor to VccT.
- 4. Two-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 $4.7K\Omega$ to $10K\Omega$ pull-up resistor to VccHost.
- 6. Rate select can also be set through the 2-wire bus in accordance with SFF-8472 v. 12.1, Rx Rate Select is set at Bit 3, Byte 110, Address A2h. Tx Rate Select is set at Bit 3, Byte 118, Address A2h. Note: writing a "1" selects maximum bandwidth operation. Rate select is the logic OR of the input state of Rate Select Pin and 2-wire bus.

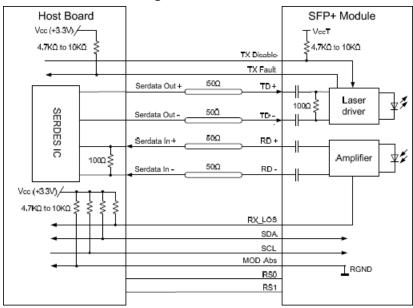
Electrical Pin-Out Details



Recommended Host Board Power Supply Filter Network



Recommended Application Interface Block Diagram



Mechanical Specifications

