

10Gb/s SFP+ SR 300m Transceiver SLT0SPSR010GT85x

Features

- Support 10GBASE-SR/10G Fiber Channel application
- Compliant to SFP+ Electrical MSA SFF-8431
- Compliant to SFP+ Mechanical MSA SFF-8432
- Transmission distance up to 300m (OM3)
- +3.3V single power supply
- Low power consumption
- Operating case temp
Commercial: 0°C to +70 °C
Industrial: -40 ~ +85 °C
- RoHS compliant



Applications

- 10 Gigabit Ethernet
- InfiniBand QDR, DDR, SDR
- High-performance computing clusters
- Servers, switches, storage and host card adapters;

Order Information

Part No.	Bit Rate (Gbps)	Laser (nm)	Distance ¹	Fiber Type	DDMI	Connector	Temp ²
SLT0SPSR010GT85C	10.3125	850	300m	MMF	YES	LC	0°C~+70°C
SLT0SPSR010GT85I	10.3125	850	300m	MMF	YES	LC	-40°C~+85°C

Note:

1. OM3 fiber
2. Case Temperature

I. Absolute Maximum Ratings

It has to be noted that the operation in excess of any individual absolute maximum ratings might cause permanent damage to this module.

Parameter	Symbol	Min.	Typical	Max.	Unit	Notes
Supply Voltage	V _{CC3}	-0.5	-	+3.6	V	
Storage Temperature	T _s	-40	-	+85	°C	
Operating Humidity	RH	+5	-	+85	%	1
Receiver Damage Threshold per Lane	P _{IND}	+3.4	-	-	dBm	

Note: 1 No condensation

II. Recommended Operating Conditions

Parameter	Symbol	Min.	Typical	Max.	Unit	Notes
Operating Case Temperature	T _C	-40	-	+85	°C	
Power Supply Voltage	V _{CC}	3.14	3.3	3.47	V	
Power Dissipation	P _d	-	-	1	W	
Bit Rate	BR		10.3125	-	Gbps	

III. Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Units	Notes
Input Logic Level High	V _{IH}	2.0	-	V _{CC} +0.3	V	
Input Logic Level Low	V _{IL}	V _{EE} -0.3	-	0.8	V	
Output Logic Level High	V _{OH}	2.0	-	V _{CC} +0.3	V	
Output Logic Level Low	V _{OL}	0	-	0.4	V	
Transmitter						
Differential Data Input Swing	V _{in,P-P}	200	-	1000	mV _{pp}	
Input Differential Impedance	Z _{IN}	90	100	110	Ω	
Receiver						
Differential Data Output Swing	V _{out}	200	-	1000	mV	
Output Differential Impedance	Z _D	90	100	110	Ω	

IV. Optical Characteristics

Parameter	Symbol	Unit	Min	Typ.	Max	Notes
Optical transmitter Characteristics						
Bit Rate	BR	Gbps		10.3125	-	
Center Wavelength Range	λ _c	nm	840	850	860	
RMS Spectral Width	Δλ	nm	-	-	0.6	

Average Launch power Tx_off	P _{off}	dBm	-	-	-30	
Launch Optical Power	P ₀	dBm	-6.5		0	1
Extinction Ratio	ER	dB	3	-	-	
Optical Receiver Characteristics						
Bit Rate	BR	Gbps		10.3125	-	
Sensitivity	BER	dBm	-	-	-9.9	
Overload Input Optical Power	P _{IN}	dBm	0	-	-	2
Center Wavelength Range	λ _c	nm	840	-	860	
LOS Assert	-	dBm	-30	-	-	
LOS De-Assert	-	dBm	-	-	-12	
LOS Hysteresis	-	dB	0.5	-	-	

Note:

1. Coupled into 50/125 MMF.
2. Measured with PRBS 2³¹-1 test pattern @10.3125Gbps.BER=1E-12

V. Pin arrangement

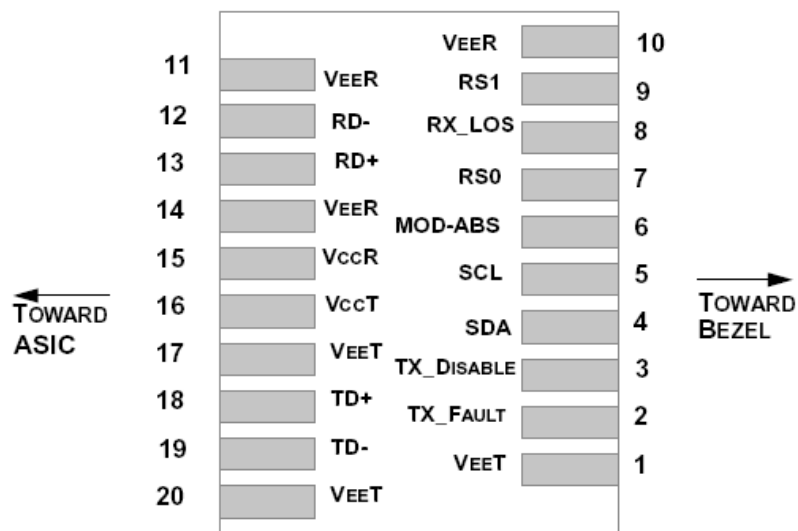


Figure 1, Pin View

Pin	Symbol	Name/Description	Notes
1	VEET	Module Transmitter Ground	1
2	TX_FAULT	Module Transmitter Fault	2
3	TX_DISABLE	Transmitter Disable; Turns off transmitter laser output	3
4	SDA	2-Wire Serial Interface Data Line (MOD-DEF2)	2
5	SCL	2-Wire Serial Interface Clock (MOD-DEF1)	2
6	MOD_ABS	Module Absent, connected to V _{EE} T or V _{EE} R in the module	
7	RS0	Rate Select 0, optionally controls SFP+ module receiver	

8	RX_LOS	Receiver Loss of Signal Indication (In FC designated as Rx_LOS and in Ethernet designated as NOT Signal Detect)	2
9	RS1	Rate Select 1, optionally controls SFP+ module transmitter	
10	V _{EE} R	Module Receiver Ground	1
11	V _{EE} R	Module Receiver Ground	1
12	RD-	Receiver Inverted Data Output	
13	RD+	Receiver Non-Inverted Data Output	
14	V _{EE} R	Module Receiver Ground	1
15	V _{CC} R	Module Receiver 3.3 V Supply	
16	V _{CC} T	Module Transmitter 3.3 V Supply	
17	V _{EE} T	Module Transmitter Ground	1
18	TD+	Transmitter Non-Inverted Data Input	
19	TD-	Transmitter Inverted Data Input	
20	V _{EE} T	Module Transmitter Ground	1

Note:

1. Circuit ground is internally isolated from chassis ground.
2. The pins shall be pulled up with 4.7K-10Kohms to a voltage between 3.14V and 3.46V on host board.
3. The pin is pulled up to VCCT with a 4.7K-10KΩ resistor in the module.

VI. Mechanical

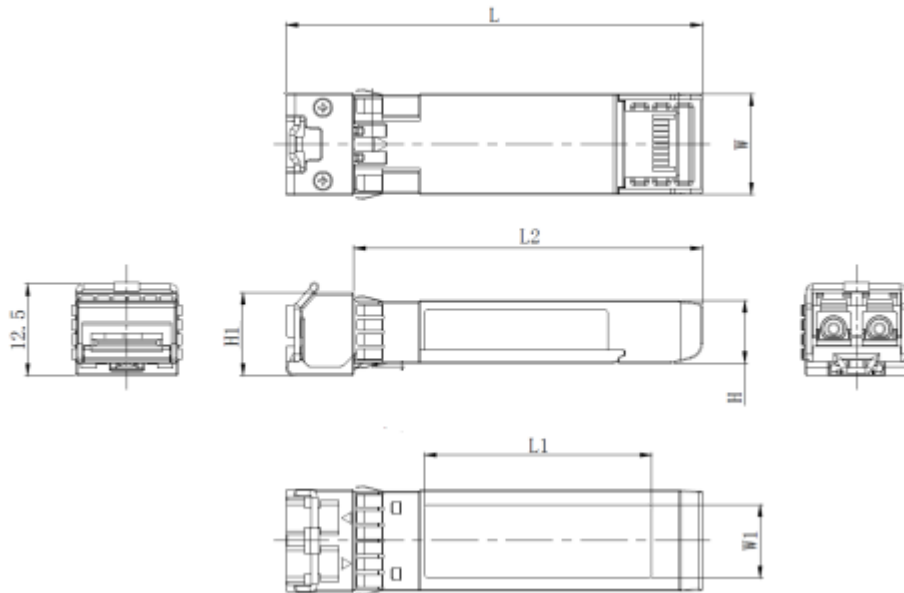


Figure 2, Mechanical Diagram

Unit: mm

	L	L1	L2	W	W1	H	H1
Max.	56.9	31.2	47.7	13.9	10.2	8.6	11.5
Typ.	56.7	31	47.5	13.7	10.0	8.5	11.3
Min.	56.5	30.8	47.3	13.5	9.8	8.3	11.1

VII. Revision history

Version	Initiated	Reviewed	Revision	Release Date
A0	Tony	Jack	New Release	2022-09-09

VIII. Warnings

Handling Precautions: This device is susceptible to damage as a result of electrostatic discharge (ESD). A static free environment is highly recommended. Follow guidelines according to proper ESD procedures.

Laser Safety: Radiation emitted by laser devices can be dangerous to human eyes. Avoid eye exposure to direct or indirect radiation.

IX. Contact Information

Sales@suliton.com