

Cisco Compatible SFP-10/25G-CSR-S Quick Spec:

Part Number:	SFP-10/25G-CSR-S-FL SFP-10/25G-CSR-S-EXT-FL SFP-10/25G-CSR-S-IND-FL
Form Factor:	SFP28
TX Wavelength:	850nm
Reach:	300m
Cable Type:	MMF
Rate Category:	10/25G
Interface Type:	CSR
DDM:	Yes
Connector Type:	Dual-LC



Cisco Compatible SFP-10/25G-CSR-S Features

- Support data rate up to 25.78Gbps
- 850nm VCSEL
- I2C interface with DDM
- Positive power supply lines: 3.3 V
- Up to 300m over MMF OM3 with FEC
- Power consumption (Each End) : <1W
- RoHS 6 compliant
- Multimode operation
- Operating Case Temperature
 - Standard: 0°C to +70°C
 - Extended: -5°C to 85°C
 - Industrial: -40°C to +85°C

Cisco Compatible SFP-10/25G-CSR-S Applications

- 10G/25GBASE-CSR
- Other Optical links

Product Description

The FluxLight [SFP-10/25G-CSR-S](#) is SFP28 module for duplex optical data, communications up to 25.78Gb/s. It is with the SFP28 20-pin connector to allow hot plug capability; Digital diagnostic functions are available via an I2C. It has built-in clock and data recovery (CDR). This module is designed for multi-mode fiber and operates at a nominal wavelength of 850nm. The transmitter section uses a Vertical Cavity Surface Emitted Laser (VCSEL) and is a Class 1, laser compliant according to International Safety Standard IEC 60825. The receiver section uses, an integrated GaAs detector preamplifier (IDP) mounted in an optical header and a limiting post-amplifier IC.

ABSOLUTE MAXIMUM RATINGS

The operation in excess of any absolute maximum ratings might cause permanent damage to this module.

Parameter	Symbol	Min	Max	Unit	Notes
Storage Temperature	TS	-40	85	degC	
Operating Case Temperature - Commercial	TOP	0	70	degC	
Operating Case Temperature – Extended	TOP	-5	85	degC	
Operating Case Temperature - Industrial	TOP	-40	85	degC	
Power Supply Voltage	VCC	-0.3	3.6	V	
Relative Humidity (non-condensation)	RH	5	85	%	
Damage Threshold, each Lane	THd	-3		dBm	

RECOMMENDED OPERATING CONDITIONS

Parameter	Symbol	Min	Typical	Max	Unit	Notes
Operating Case Temperature - Commercial	TOP	0	70	degC		
Operating Case Temperature – Extended	TOP	-5	85	degC		
Operating Case Temperature - Industrial	TOP	-40	85	degC		
Power Supply Voltage	VCC	3.135	3.3	3.465	V	
Data Rate,				25.78125	Gb/s	
Data Rate Accuracy		-100		100	ppm	
Tx_DISABLE Input Voltage –High		2			V	
Tx_DISABLE Input Voltage – Low				0.8	V	

Electrical and Optical Characteristics

Parameter	Symbol	Min	Typical	Max	Unit	Notes
Power Consumption				1.0	W	
Supply Current	Icc			300	mA	
Transmitter						
Centre Wavelength	λ_C	840	850	860	nm	
Spectral Width(RMS)	$\Delta\lambda$			0.6	nm	
Average Output Power	Pout	-8.4		2.4	dBm	
Extinction Ratio	ER	2			dB	
Receiver						
Centre Wavelength	λ_C	840	850	860	nm	
Average Receiver Power	Pin	-10.3		2.4	dBm	
Unstressed receiver sensitivity, each lane	Sen			-7.2	dBm	1
Optical Return Loss	ORL			-12	At 1MHz	
LOS De-Assert	LOSD			-13	dB	
LOS Assert	LOSA	-30			dB	
LOS Hysteresis		0.5			dB	

Note:

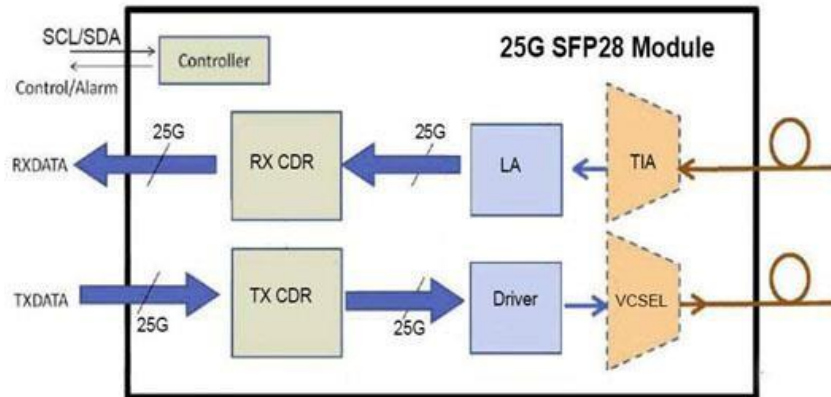
1. BER=5E-5 Measured with RPBS 2^31-1 test pattern @25.78Gbs

Digital Diagnostic Functions

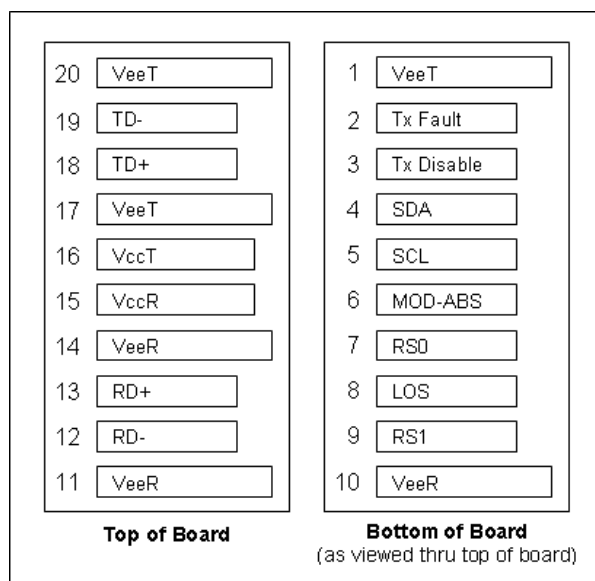
The following digital diagnostic characteristics are defined over the normal operating conditions unless otherwise specified.

Parameter	Symbol	Min	Max	Unit
Temperature monitor absolute error	DMI_Temp	-5	5	°C
Supply voltage monitor absolute error	DMI_VCC	-0.1	0.1	V
Channel RX power monitor absolute error	DMI_RX_Ch	-3	3	dB
Channel Bias current monitor	DMI_Ibias_Ch	-10%	10%	mA
Channel TX power monitor absolute error	DMI_TX_Ch	-3	3	dB

Block Diagram



Pin Assignment and Description

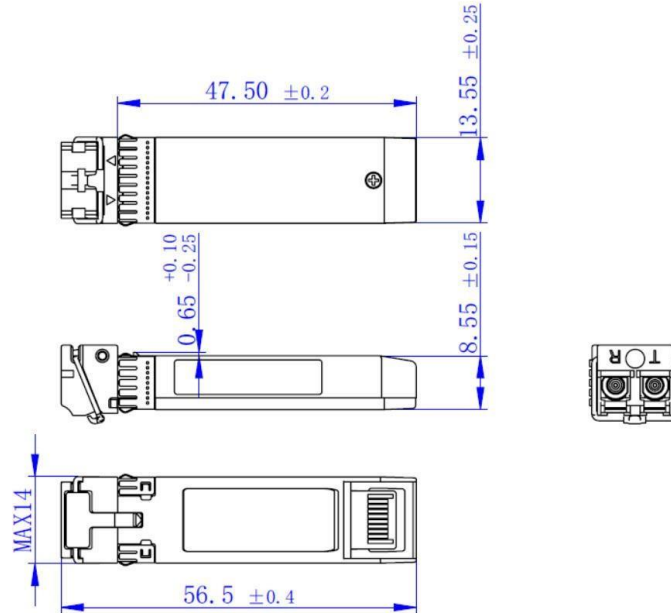


Pin Assignment

Pin	Signal Name	Description	Plug Seq.	Notes
1	VEET	Transmitter Ground	1	
2	TX FAULT	Transmitter Fault Indication	3	
3	TX DISABLE	Transmitter Disable	3	
4	SDA	SDA Serial Data Signal	3	
5	SCL	SCL Serial Clock Signal	3	
6	MOD_ABS	Module Absent. Grounded within the module	3	
7	RS0	Not Connected	3	
8	LOS	Loss of Signal	3	
9	RS1	Not Connected	3	
10	VEER	Receiver ground	1	
11	VEER	Receiver ground	1	
12	RD-	Inv. Received Data Out	3	
13	RD+	Received Data Out	3	
14	VEER	Receiver ground	1	
15	VCCR	Receiver Power Supply	2	
16	VCCT	Transmitter Power Supply	2	
17	VEET	Transmitter Ground	1	
18	TD+	Transmit Data In	3	
19	TD-	Inv. Transmit Data In	3	
20	VEET	Transmitter Ground	1	

Mechanical Dimensions

Units: mm



ESD

This transceiver is specified as ESD threshold 1kV for SFI pins and 2kV for all other electrical input pins, tested per MIL-STD-883, Method 3015.4 /JESD22-A114-A (HBM). 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).

Licensing

The following U.S. patents are licensed by Finisar to FluxLight, Inc.:

U.S. Patent Nos: 7,184,668, 7,079,775, 6,957,021, 7,058,310, 6,952,531, 7,162,160, 7,050,720