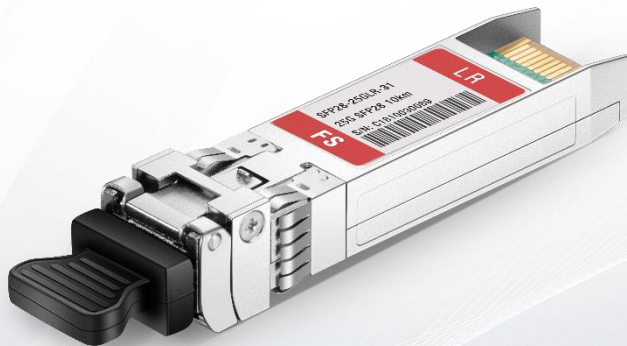


25G SFP28 1310nm 10km DOM Transceiver

SFP28-25GLR-31



Application

- Data Center Backbone
- Ethernet Switches
- High-speed Servers
- High-performance Computing Clusters
- SAN, Routers, Hubs, Load Balancer

Features

- 25Gbps serial optical interface
- 1310nm DFB transmitter and PIN PD receiver
- Wide Operating Temperature(0°C~70°C)
- Maximum link length of 10km via Single Mode Fiber (SMF)

Description

The Technologies SFP28-25GLR-31 is a single-Channel, Pluggable, Fiber-Optic SFP28 for 25 Gigabit Ethernet and Infiniband SAN Applications. It is a high performance module for long-range data communication and interconnect applications which operate at 25.78125Gbps up to 10 km using single mode fiber(SMF).

This module is designed to operate over singlemode fiber systems using a nominal wavelength of 1310nm. The electrical interface uses a 20 contact edge type connector. The optical interface uses duplex LC receptacle. This module incorporates Technologies proven circuit and DFB technology to provide reliable long life, high performance, and consistent service.

Product Specifications

I. Optical and Electrical Characteristics

Parameter	Symbol	Min	Typ.	Max	Unit
Power Consumption	P			1.2	W
Supply Current	I _{cc}			300	mA
Transmitter(T=25° C, unless noted)					
Data Rate	R		25.8	28.05	Gbps
Centre Wavelength	λ_c	1290	1310	1330	nm
Spectral Width (-20dB)	$\Delta\lambda$			1	nm
Average Optical Power	P _{avg}	-4.5		2	dBm
Optical Power OMA	P _{OMA}	-6.4			dBm
Extinction Ratio	ER	3.5			dB
Differential data input swing	V _{IN,PP}	180		700	mV
Input Differential Impedance	R _{in}		100		Ω

Receiver(T=25° C, unless noted)

Center Wavelength	λ_r	1270	1360	nm
Damage Threshold		3.5		dBm
Overload	Sat	2		dBm
Receiver Reflectance	R_{rx}		-12	dB
Receiver Sensitivity (OMA)	Sen		-8.6	dBm
LOS Assert	LOS_A	-30		dBm
LOS De-Assert	LOS_D		-11	dBm
LOS Hysteresis	LOS_H	0.5	5	dB

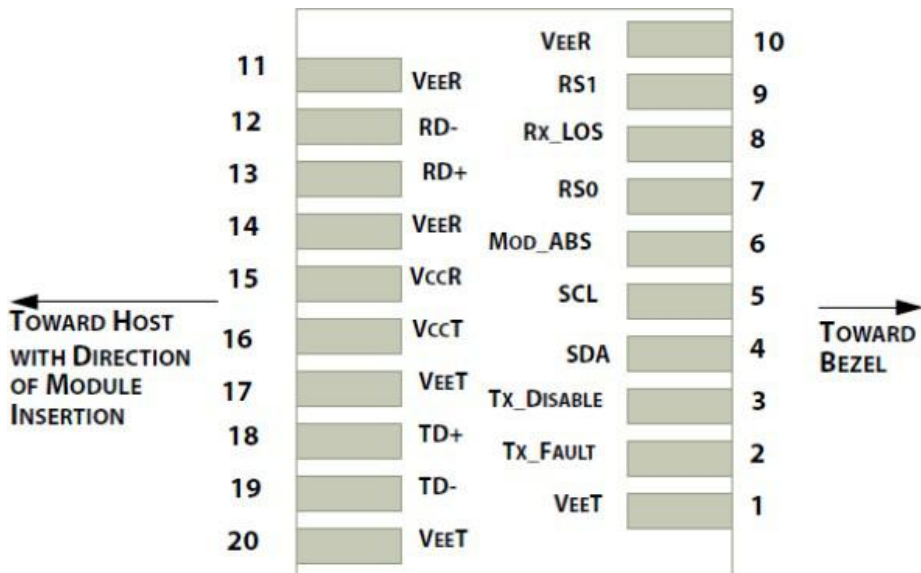
II. Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit
Storage Temperature	T_S	-40	85	°C
Relative Humidity	RH	5	95	%

III. Recommended Operating Conditions

Parameter	Symbol	Min	Typ.	Max	Unit
Case Temperature	T_c	0		+70	°C
Power Supply Voltage	V_{CC}	3.15	3.3	3.45	V
Signaling Rate each Channel			25.78125		Gbps

IV. PIN ASSIGNMENT

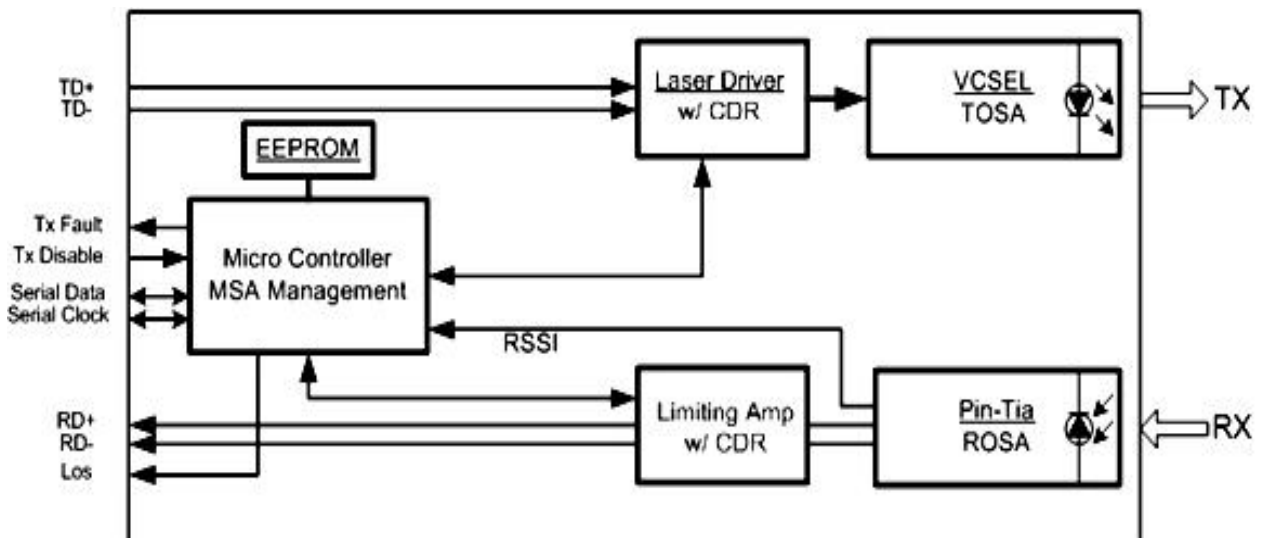


Pin Description

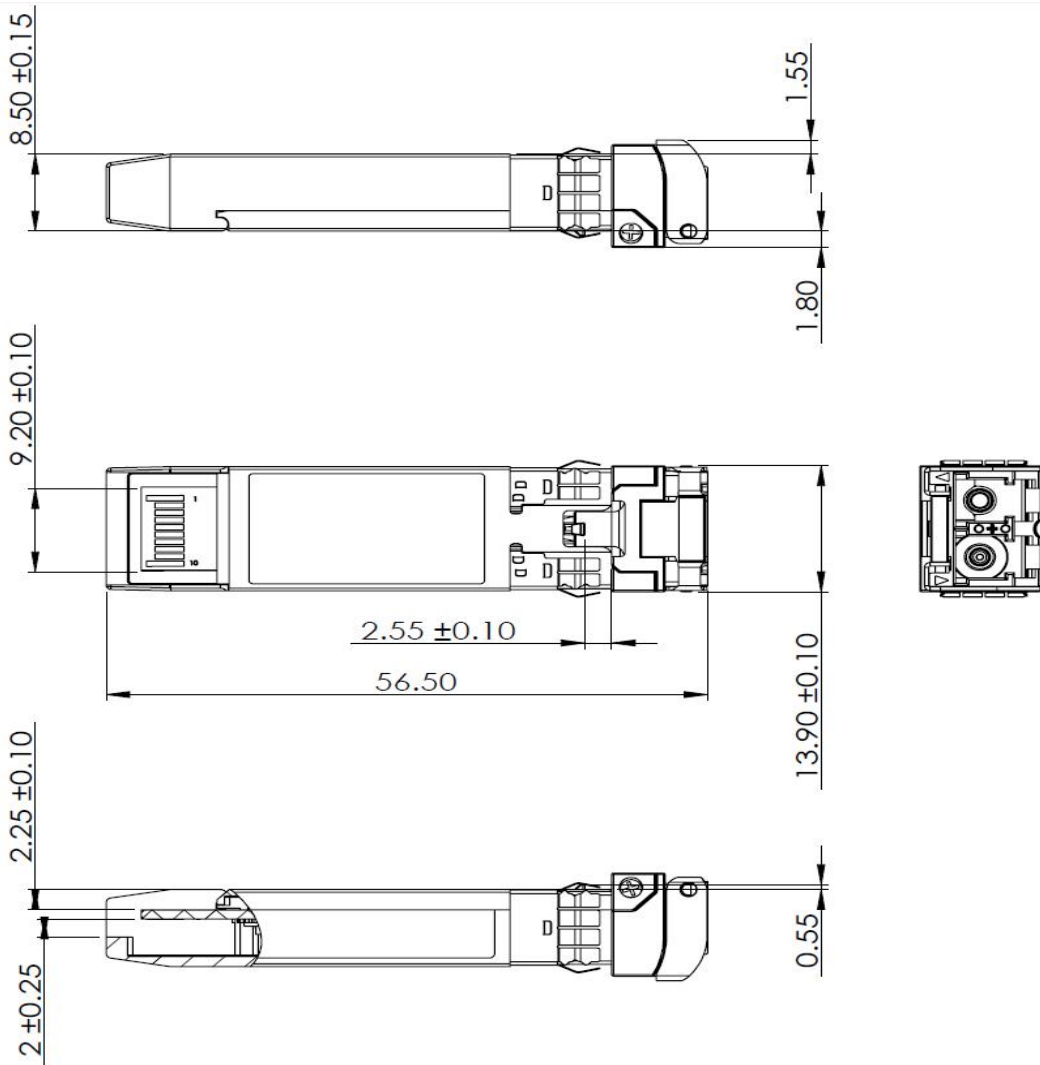
Pin	Logic	Symbol	Name/Description
1		VeeT	Module Transmitter Ground
2	LVTTL-O	TX_Fault	Module Transmitter Fault
3	LVTTL-I	TX_Dis	Transmitter Disable; Turns off transmitter laser output
4	LVTTL-I/O	SDA	2-Wire Serial Interface Data Line
5	LVTTL-I	SCL	2-Wire Serial Interface Clock
6		MOD_DEFO	Module Definition, Grounded in the module
7	LVTTL-I	RS0	Receiver Rate Select
8	LVTTL-O	RX_LOS	Receiver Loss of Signal Indication Active LOW
9	LVTTL-I	RS1	Transmitter Rate Select (not used)

10		VeeR	Module Receiver Ground
11		VeeR	Module Receiver Ground
12	CML-O	RD-	Receiver Inverted Data Output
13	CML-O	RD+	Receiver Data Output
14		VeeR	Module Receiver Ground
15		VccR	Module Receiver 3.3 V Supply
16		VccT	Module Receiver 3.3 V Supply
17		VeeT	Module Transmitter Ground
18	CML-I	TD+	Transmitter Non-Inverted Data Input
19	CML-I	TD-	Transmitter Inverted Data Input
20		VeeT	Module Transmitter Ground

V. Transceiver Block Diagram



VI. Mechanical Dimensions



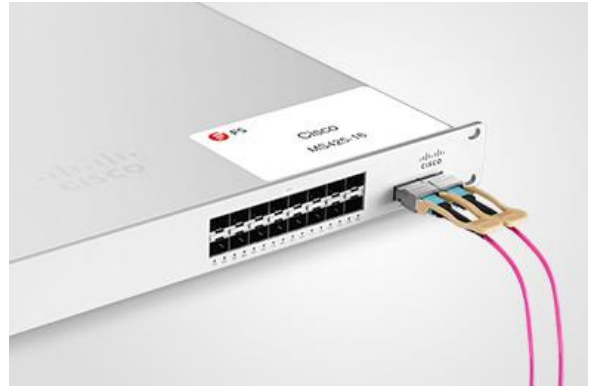
Test Center

I. Compatibility Testing

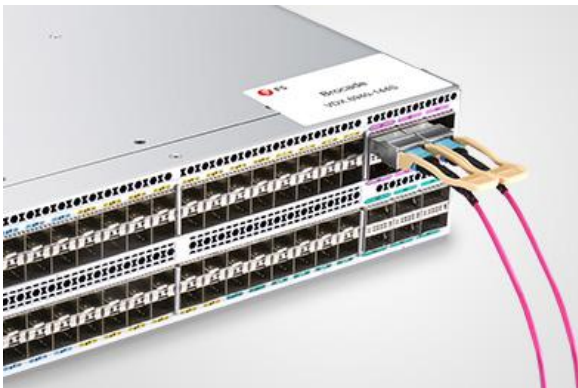
Each fiber optical transceiver has been tested in host device on site in FS Assured Program to ensure full compatibility with over 200 vendors.



Cisco Catalyst C9500-24Y4C



Cisco MS425-16



Brocade VDX 6940-144S



Dell EMC Networking Z9100-ON



Force¹⁰ S60-44T

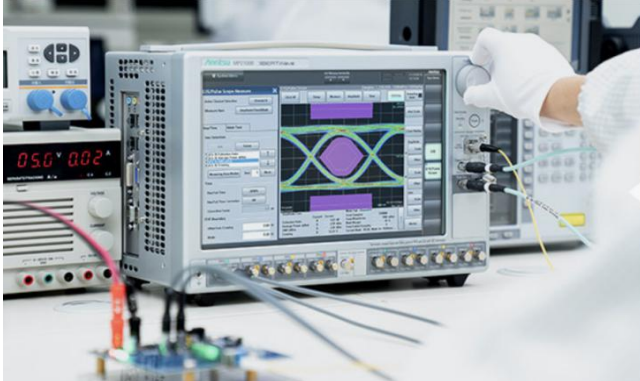


HUAWEI S6720-30L-HI-24S

Above is part of our test bed network equipment. For more information, please click the [Test Bed PDF](#). It will be updated in real time as we expand our portfolio.

II. Performance Testing

Each fiber optical transceiver has been fully tested in FS Assured Program equipped with world's most advanced analytical equipment to ensure that our transceivers work perfectly on your device.



1. TX/RX Single Quality Testing

Equipped with the all-in-one tester integrated 4ch BERT & sampling oscilloscope, and variable optical attenuator the input and output signal quality.

- Eye Pattern Measurements: Jitter, Mask Margin, etc
- Average Output Power
- OMA
- Extinction Ratio
- Receiver Sensitivity
- BER Curve

2. Reliability and Stability Testing

Subject the transceivers to dramatic in temperature on the thermal shock chamber to ensure reliability and stability of the transceivers.

- Commercial: 0°C to 70°C
- Extended: -5°C to 85°C
- Industrial: -40°C to 85°C



3. Transfer Rate and Protocol Testing

Test the actual transfer data rate and the transmission ability under different protocols with Networks Master Pro.

- Ethernet
- Fiber Channel
- SDH/SONET
- CPRI



4. Optical Spectrum Evaluation

Evaluate various important parameters with the Optical Spectrum Analyzer to meet the industry standards.

- Center Wavelength, Level
- OSNR
- SMSR
- Spectrum Width



Order Information

Part Number	Description
SFP28-25GSR-85	25G SFP28 850nm 100m DOM Transceiver
SFP28-25GLR-31	25G SFP28 1310nm 10km DOM Transceiver
CWDM-SFP25G-10SP	25G CWDM SFP28 1270nm 10km DOM Transceiver
CWDM-SFP25G-10SP	25G CWDM SFP28 1290nm 10km DOM Transceiver
CWDM-SFP25G-10SP	25G CWDM SFP28 1310nm 10km DOM Transceiver
CWDM-SFP25G-10SP	25G CWDM SFP28 1330nm 10km DOM Transceiver



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