GL28-AY1M3xxM

25Gbps SFP28 Active Optical Cable

Features

- Hot-plug gable SFP+ cable ends
- Support 25.78Gbps bit rate
- Available in lengths up to 100m
- Power Dissipation <1W
- Single +3.3V power supply
- Operating Case temperature range
  0°C to 70°C
- RoHS-6 compliant
- Compliant with SFF-8431
- Compliant with SFF-8432

Applications

- 25G Ethernet
- Data Center

Ordering information

Part No.	Reach	Data Rate	Temp.
GL28-AY1M303M	3m	25.78Gpbs	0°C to 70°C
GL28-AY1M305M	5m	25.78Gpbs	0°C to 70°C
GL28-AY1M307M	7m	25.78Gpbs	0°C to 70°C
GL28-AY1M310M	10m	25.78Gpbs	0°C to 70°C
GL28-AY1M315M	15m	25.78Gpbs	0°C to 70°C
GL28-AY1M320M	20m	25.78Gpbs	0°C to 70°C
GL28-AY1M3100M	100m	25.78Gpbs	0°C to 70°C

More detail product selection and cable lengths, please contact FIBRECROSS.

Description

GL28-AY1M3xxM SFP28 active optical cables are designed for use in 25G-Ethernet links. The are compliant with SFF-8431, and the mechanical SFP+ plug is compatible with SFF-8432.

Absolute Maximum Ratings

Parameter	Symbol	Min.	Typical	Max.	Unit	Note
Power Supply Voltage	V_{CC}	0		3.6	V	
Storage Temperature	Ts	-40		+85	°C	
Relative Humidity	RH	5		85	%	Non-condensing
Operating Case Temperature	Tc	0		+70	°C	

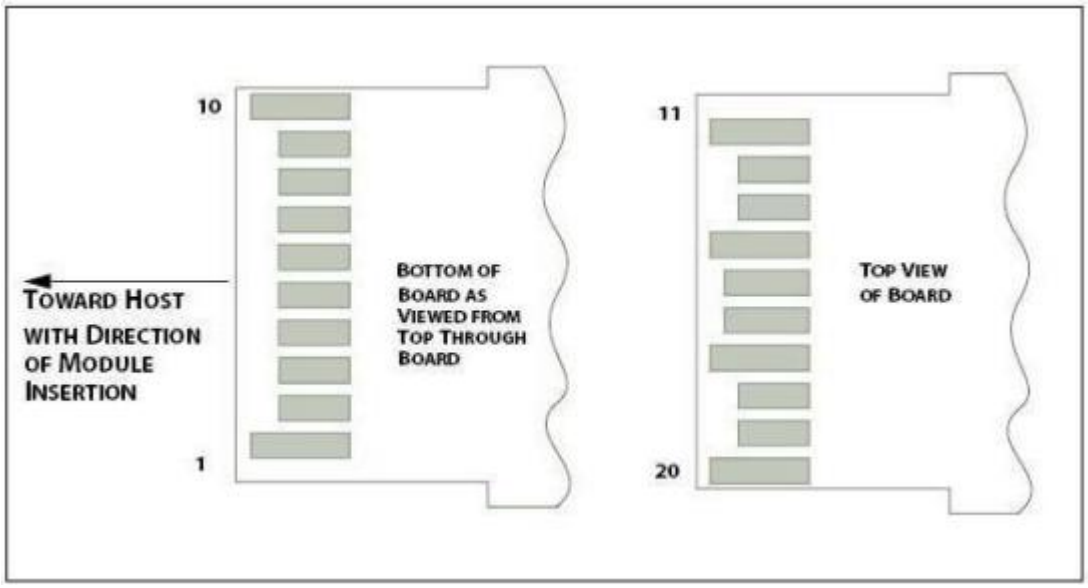
Electrical Characteristics

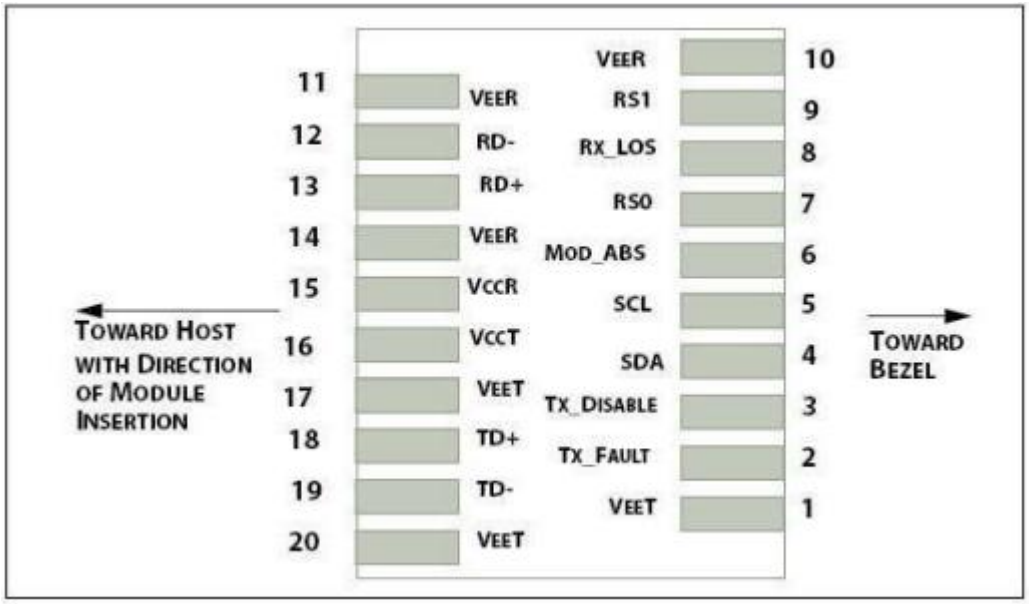
Parameter	Symbol	Min.	Typical	Max.	Unit	Note
Power Supply Voltage	V_{CC}	3.135	3.3	3.465	V	
Power Dissipation	P_D			1	W	
Power Supply Current	Icc			310	mA	
Data Rate			25.78		Gbps	
Clock Rate-I2C				400	kHz	
Transmitter						
Input Differential impedance	Z_{IN}		100		ohm	
Differential data input swing	V_{IN}	180		700	mV	
Transmit Disable Voltage	V_{DIS}	2		V_{CC}+0.3	V	
Transmit Enable Voltage	V_{EN}	0		0.8	V	
Transmit Fault Assert Voltage		2		V_{CC}+0.3	V	
Transmit Fault De-Assert Voltage		0		0.8	V	
Receiver						
Output Differential impedance	Zout		100		ohm	
Differential data Output Swing	Vout	300		850	mV	
Rx_LOS Output Voltage-High		2		V_{CC}+0.3	V	
Rx_LOS Output Voltage-Low		0		0.8	V	

General Specifications

Parameter		Symbol	Min.	Typical	Max.	Unit	Note
Bit Rate		BR		25.78		Gbps	
Bit Error Ratio		BER			5E-5		PRBS31
Maximum Supported Distances							
Fiber Type	Bandwidth (850nm)						
50um	2000MHz*km				70	m	OM3
50um	4700MHz*km				100	m	OM4

Pin Assignment:





Pin Descriptions

PIN	Symbol	Name / Description	Note
1	V_{EET}	Transmitter Ground (Common with Receiver Ground)	1
2	TX_Fault	Transmitter Fault	2
3	TX_Dis	Transmitter Disable	3
4	SDA	2-Wire Serial Interface Data Line	4
5	SCL	2-Wire Serial Interface Clock	4

6	MOD_ABS	Module Definition, Grounded in the module	---
7	RS0	Receiver Rate Select (not used)	---
8	RX_LOS	Receiver Loss of Signal Indication	5
9	RS1	Transmitter Rate Select (not used)	---
10	V_{EER}	Receiver Ground (Common with Transmitter Ground)	1
11	V_{EER}	Receiver Ground (Common with Transmitter Ground)	1
12	RD-	Receiver Inverted Data Output	6
13	RD+	Receiver Data Output	6
14	V_{EER}	Receiver Ground (Common with Transmitter Ground)	1
15	V_{CCR}	Receiver Power	7
16	V_{CCT}	Transmitter Power	7
17	V_{EET}	Transmitter Ground (Common with Receiver Ground)	1
18	TD+	Transmitter Non-Inverted Data Input	6
19	TD-	Transmitter Inverted Data Input	6
20	V_{EET}	Transmitter Ground (Common with Receiver Ground)	1

Note1: Module ground pins GND are isolated from the module case.

Note2: The Tx_Fault output is an open collector/drain output, which should be pulled up with a 4.7k to 10k ohms resistor on the host board.

Note3: Transmitter output disabled on TDIS >2.0V or open, enabled on TDIS <0.8V.

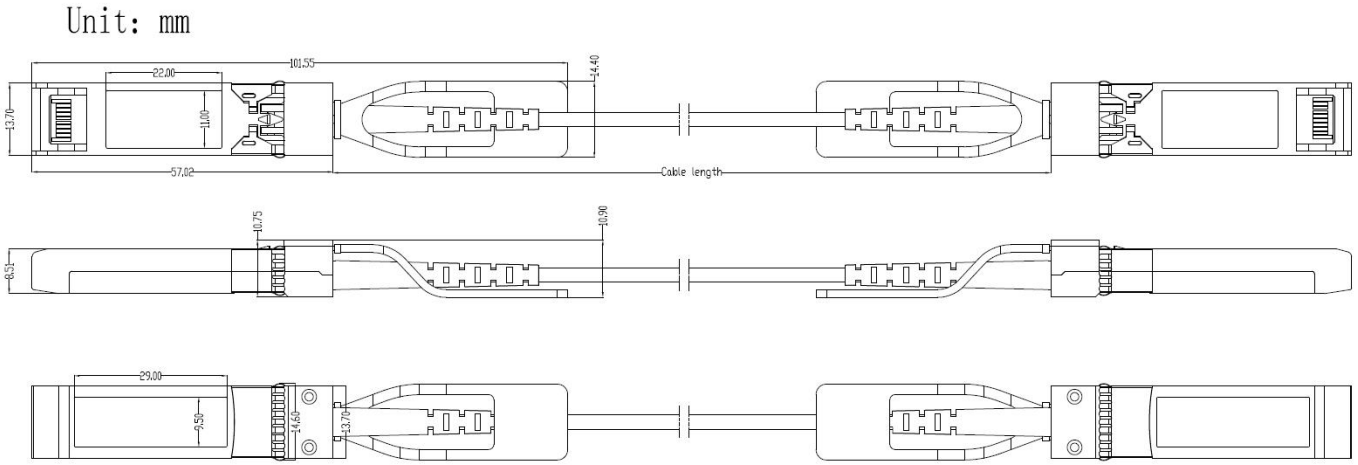
Note4: Shall be pulled up with 4.7K-10Kohms to a voltage between 3.15V and 3.45V on the host board.

Note5: LOS is open collector output. Should be pulled up with 4.7–10k ohms on host board to a voltage between 2.0V and 3.6V. Logic 0 indicates normal operation; logic 1 indicates loss of signal.

Note6: VccR and VccT are the receiver and transmitter power supplies. They are defined as 3.3V ±5% at the SFP+ connector pin.

Note7: They are AC-coupled, differential lines with 100Ω differential termination inside the module.

Mechanical Dimensions



Revision History

Revision	Initiated	Reviewed	Approved	DCN	Release Date
V1.0	Feynman	XX	XX	Released.	July 16, 2022

Important Notice

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