

Features

- ✧ SFF-8432 Mechanical MSA
- ✧ 25G 850nm VCSEL transmitter
- ✧ 25G PIN photo-detector
- ✧ 2-wire interface for management specifications compliant with SFF 8472 digital diagnostic monitoring interface for optical transceivers
- ✧ Pre-terminated fiber cable

- ✧ Up to 70m/100m by active optical cable with OM3/OM4 fiber
- ✧ Operating environment temperature: 0 to 70°C
- ✧ SFP28 housing with enhanced EMI shielding
- ✧ 25G electrical interface (OIF CEI-28G-VSR)
- ✧ Maximum power consumption 1.0W each terminal
- ✧ Single 3.3V power supply
- ✧ RoHS compliant

Applications

- ✧ 25G Ethernet
- ✧ High capacity IO with SFP28 interface
- ✧ Data center and in-rack connection

Absolute Maximum Ratings

Parameter	Symbol	Min.	Max.	Units	Note
Power Supply Voltage	V _{CC}	0	3.6	V	
Storage Temperature	T _s	40	85	C	
Operating Case Temperature	T _c	0	70	C	
Relative Humidity	RH	5	95	%	

Recommended Operating Conditions

Parameter	Symbol	Min.	Typical	Max.	Units	Note
Power Supply Voltage	V _{CC}	3.135	3.3	3.465	V	
Operating Case Temperature	T _c	0	25	70	C	
Data Rate, each Lane			25.78125		Gb/s	
Data Rate Accuracy		-100		100	ppm	
Control Input Voltage High		2		V _{CC}	V	
Control Input Voltage Low		0		0.8	V	
Fiber Bend Radius	R _{bend}	3			cm	

Electrical Characteristics – Transmitter

Parameter	Test point	Min.	Typical	Max.	Units	Note
Power Consumption				1.0	W	1
Supply Current	<i>I_{cc}</i>			300	mA	1
Overload Differential Voltage pk-pk	<i>TP1a</i>	900			mV	
Common Mode Voltage (V _{cm})	<i>TP1</i>	-350		2850	mV	2
Differential Termination Resistance Mismatch	<i>TP1</i>			10	%	At 1MHz
Differential Return Loss (SDD11)	<i>TP1</i>			See CEI-28G VSR Equation 13-19	dB	
Common Mode to Differential conversion and Differential to Common Mode conversion (SDC11, SCD11)	<i>TP1</i>			See CEI-28G VSR Equation 13-20	dB	
Stressed Input Test	<i>TP1a</i>			See CEI-28G-VSR Section 13.3.11.2.1		

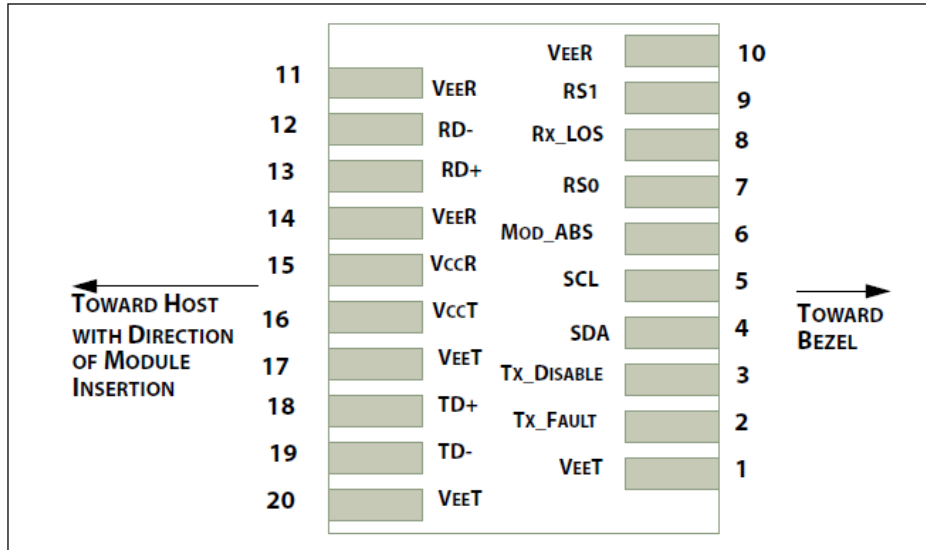
Electrical Characteristics – Receiver

Parameter	Symbol	Min.	Typical	Max.	Units	Note
Differential Voltage, pk-pk	<i>TP4</i>			900	mV	
Common Mode Voltage (V _{cm})	<i>TP4</i>	-350		2850	mV	2
Common Mode Noise, RMS	<i>TP4</i>			17.5	mV	At 1MHz
Differential Termination Resistance	<i>TP4</i>			10	%	
Differential Return Loss (SDD22)	<i>TP4</i>			See CEI-28G VSR Equation 13-19	dB	
Common Mode to Differential conversion and Differential to Common Mode conversion (SDC22, SCD22)	<i>TP4</i>			See CEI-28G VSR Equation 13-19	dB	
Common Mode Return Loss (SCC22)	<i>TP4</i>			-2	dB	³
Transition Time, 20 to 80%	<i>TP4</i>	9.5			Ps	
Vertical Eye Closure (VEC)	<i>TP4</i>			5.5	dB	
Eye Width at 10 ⁻¹⁵ probability (EW15)	<i>TP4</i>	0.57			UI	

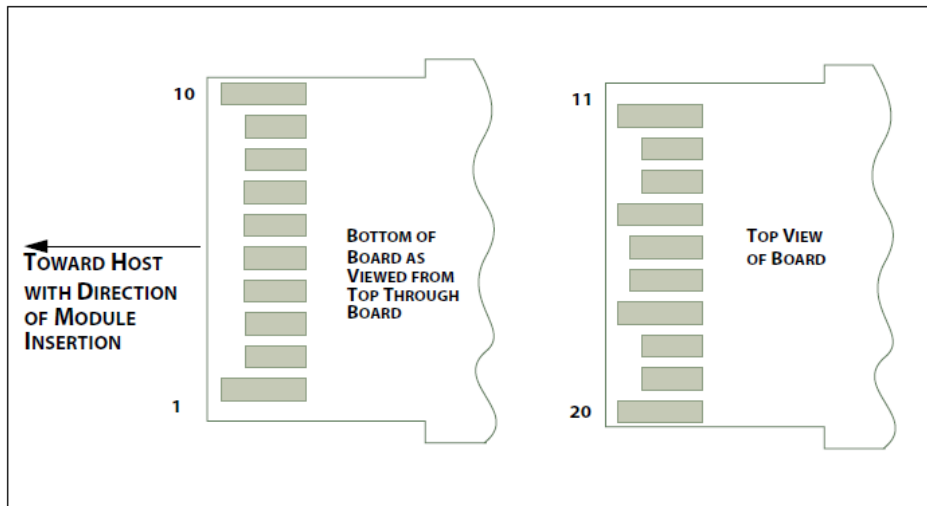
Eye Height at 10 ⁻¹⁵ probability (EH15)	TP4	228		mV		
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Notes:

1. Per terminal.
2. Vcm is generated by the host. Specification includes effects of ground offset voltage.
3. From 250MHz to 30GHz. [Pin Assignment](#)



Interface to Host



Contact Assignment

Pin Description

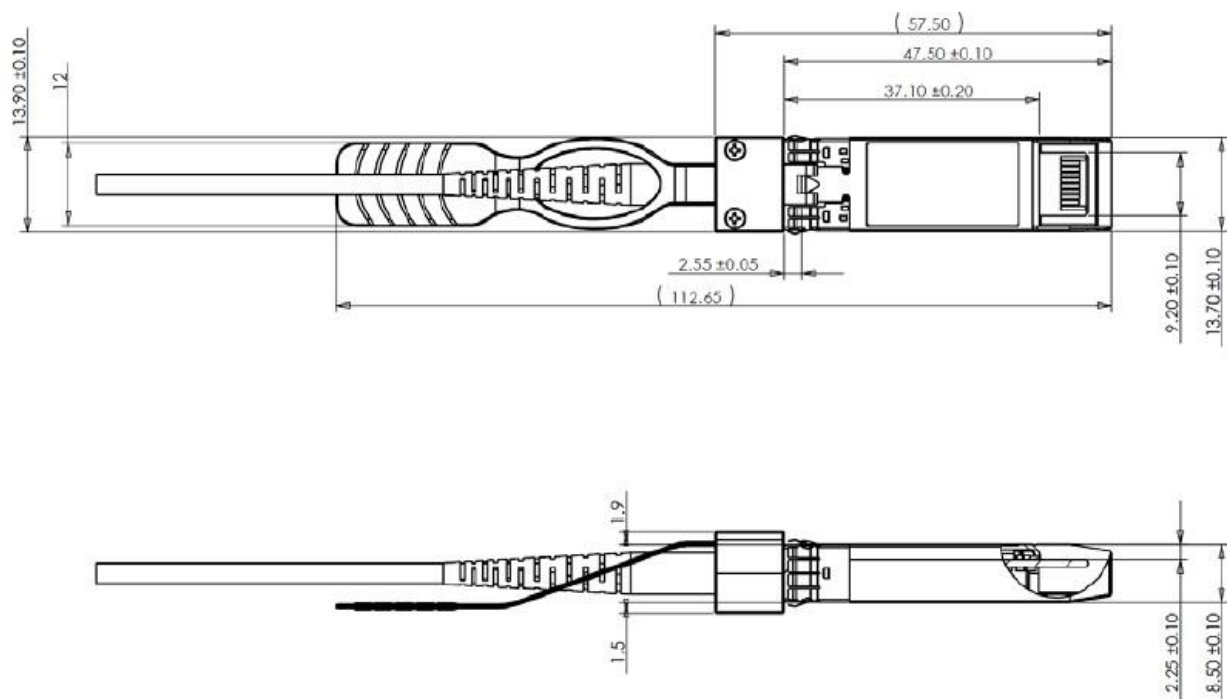
Pin	Logic	Symbol	Description	Note
1		VeeT	Module Transmitter Ground	1
2	LVTTL-O	TX_Fault	Module Transmitter Fault	
3	LVTTL-I	TX_Dis	Transmitter Disable; Turns off transmitter laser output	
4	LVTTL-I/O	SDA	2-Wire Serial Interface Data Line	2

5	LVTTL-I	SCL	2-Wire Serial Interface Clock	2
6		MOD-DEF0	Module Definition, Grounded in the	
7	LVTTL-I	RS0	No connection required	
8	LVTTL-O	RX-LOS	Receiver Loss of Signal Indication. Logic 0 indicates normal operation	
9	LVTTL-I	RS1	No connection required	
10		VeeR	Module Receiver Ground	1
11		VeeR	Module Receiver Ground	1
12	CML-O	RD-	Receiver Inverted Data Output	
13	CML-O	RD+	Receiver Data Output	
14		VeeR	Module Receiver Ground	1
15		VccR	Module Receiver 3.3 V Supply	
16		VccT	Module Receiver 3.3 V Supply	
17		VeeT	Module Transmitter Ground	1
18	CML-I	TD+	Transmitter Non-Inverted Data Input	
19	CML-I	TD-	Transmitter Inverted Data Input	
20		VeeT	Module Transmitter Ground	1

Notes:

1. Module ground pins GND are isolated from the module case.
2. Shall be pulled up with 4.7K-10Kohms to a voltage between 3.15V and 3.45V on the host board.

Dimensions



<i>Part Number</i>	<i>Model Number</i>	<i>Length (M)</i>	<i>Voltage</i>	<i>Temperature</i>
OP30T1-AOC	Active Optical Cable	1	3.3V	0C ~ 70C
OP30T3-AOC	Active Optical Cable	3	3.3V	0C ~ 70C
OP30T5-AOC	Active Optical Cable	5	3.3V	0C ~ 70C
OP30T10-AOC	Active Optical Cable	10	3.3V	0C ~ 70C
OP30T50-AOC	Active Optical Cable	50	3.3V	0C ~ 70C
OP30T70-AOC	Active Optical Cable	70	3.3V	0C ~ 70C