25G S28-AO 850nm 70m AOC Cable

S28-AO-I



Application

- 25G BASE-ESR Ethernet

Features

- Hot-pluggable SFP28 Form-factor Connectors
- 850nm VCSEL Laser and PIN Photo-detector
- Internal CDR Circuits on Both Receiver and Transmitter Channels
- Compliant with SFP28 MSA and IEEE 802.3 By 25GBASE-SR
- Data Rate Up to 25.78125Gbps
- 3.3V Power Supply Voltage
- Power Consumption < 1W Per End
- RoHS Compliant (lead free)
- Case Operation Temperature Range:
  Industrial Temperature: -40° C to 85° C

Description

FS SFP28 Active Optical Cables are direct-attach fiber assemblies with SFP28 connectors. They are suitable for very short distances and offer a cost-effective way to connect within racks and across adjacent racks. The module is a Single-Channel, Pluggable, Fiber-Optic SFP28 for 25 Gigabit Ethernet and Infiniband EDR Applications.

These modules are designed to operate over multimode fiber systems using a nominal wavelength of 850nm. The electrical interface uses a 20 contact edge type connector.

Product Specifications

I. Absolute Maximum Ratings

Parameter	Symbol	Min.	Max.	Unit
Power Supply Voltage	V_{CC}	--0.5	+3.6	V
Storage Temperature	Tc	-40	+85	ºC
Relative Humidity	RH	0	85	%

II. Recommended Operating Conditions

Parameter	Symbol	Min.	Typ.	Max.	Unit
Supply Voltage	V_{CC}	3.15	3.3	3.45	V
Supply current per end	Icc			290	mA
Operating Case Temperature (Standard)	Tca	0		70	ºC
Operating Case Temperature (Industrial)	Tca	-40		85	ºC
Baud Rate Per Lane	DR		25.78125		Gbps
Fiber Bend Radius	Rb	3			cm

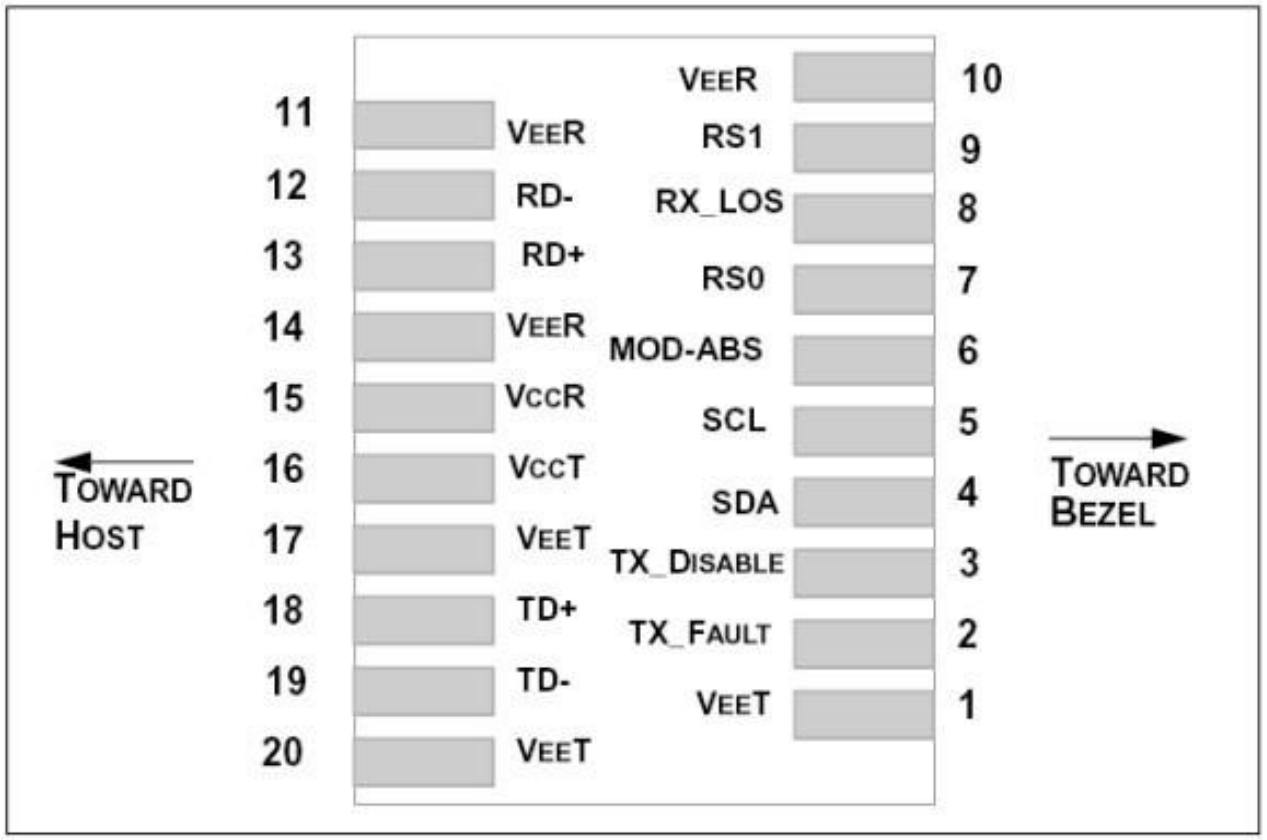
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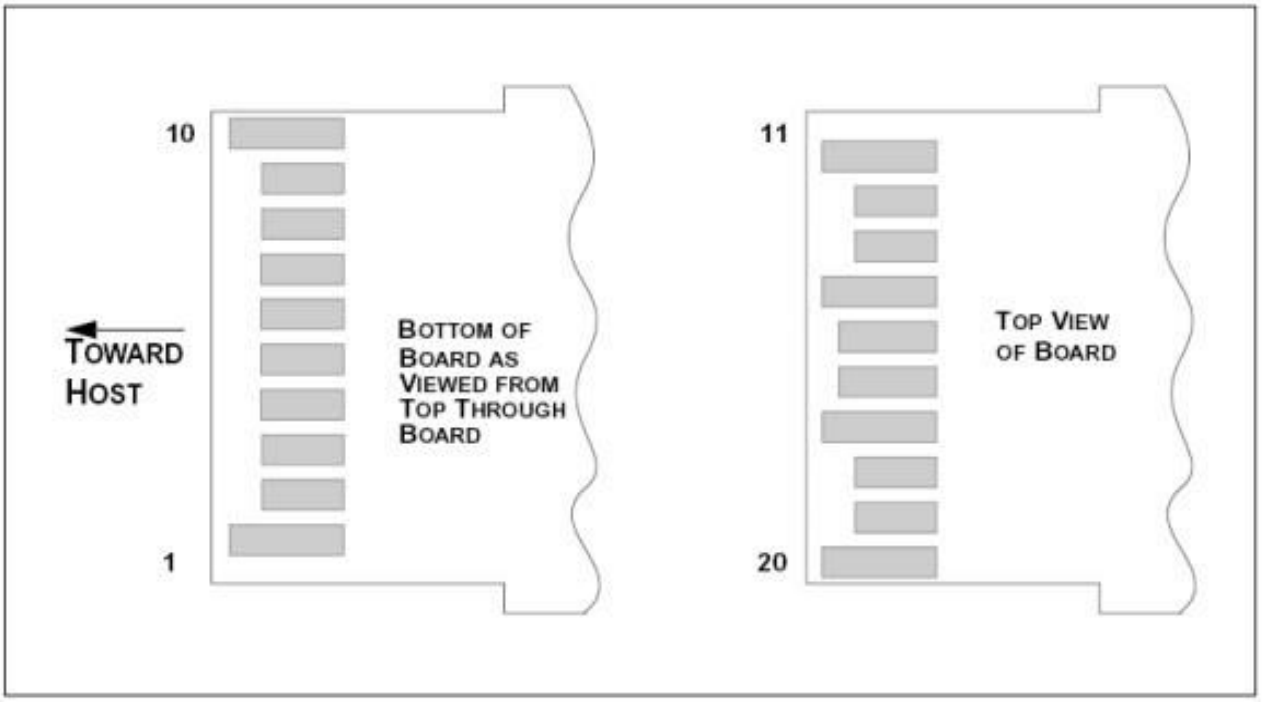
1.Supply current is shared between VCCTX and VCCRX.
2.In-rush is defined as current level above steady state current requirements.

III. Specifications

Parameter	Symbol	Unit	Min.	Typ.	Max.
Transmitter Specifications					
Input differential impedance	Rin	Ω	3.14	100	
Differential Data Input Swing	Vin	mV	300		1100
Transmit Disable Voltage	VD	V	2.0		V_{CC}+0.3
Transmit Enable Voltage	Ven	V	Vee		Vee+0.8
Receiver Specifications					
Differential Data Output Swing	Vout	mV	500		800
Bit Error Rate	BER				10^{-12}
Output Differential Impedance	Rout	Ω		100	
Loss of Signal –Negated		V	2.0		V_{CC}+0.3
Loss of Signal –Negated		V	Vee		Vee+0.8

SFP28 Transceiver Electrical Pad Layout





IV. Transceiver Pin Descriptions

Pin No.	Symbol	Name/Description
1	VEET [1]	Transmitter Ground
2	Tx_FAULT [2]	Transmitter Fault
3	Tx_DIS [3]	Transmitter Disable. Laser output disabled on high or open
4	SDA [2]	2-wire Serial Interface Data Line
5	SCL [2]	2-wire Serial Interface Clock Line
6	MOD_ABS [4]	Module Absent. Grounded within the module
7	RS0 [5]	Rate Select 0
8	RX_LOS [2]	Loss of Signal indication. Logic 0 indicates normal operation
9	RS1 [5]	Rate Select 1
10	VEER [1]	Receiver Ground
11	VEER [1]	Receiver Ground
12	RD-	Receiver Inverted DATA out. AC Coupled
13	RD+	Receiver DATA out. AC Coupled
14	VEER [1]	Receiver Ground
15	VCCR	Receiver Power Supply

Pin No.	Symbol	Name/Description
16	VCCT	Transmitter Power Supply
17	VEET [1]	Transmitter Ground
18	TD+	Transmitter DATA in. AC Coupled
19	TD-	Transmitter Inverted DATA in. AC Coupled
20	VEET [1]	Transmitter Ground

Notes

[1] Module circuit ground is isolated from module chassis ground within the module.
[2] Should be pulled up with 4.7k – 10k ohms on host board to a voltage between 3.15 Vand 3.6V.
[3] Tx_Disable is an input contact with a 4.7 kΩ to 10 kΩ pullup to VccT inside the module.
[4] Mod_ABS is connected to VeeT or VeeR in the SFP28 module. The host may pull this contact up to VCC _Host with a resistor in the range 4.7 kΩ to10 kΩ.Mod_ABS is asserted “High” when the SFP28 module is physically absent from a host slot.
[5] RS0 and RS1 are module inputs and are pulled low to VeeT with > 30 kΩ resistors in the module.

Order Information

Part Number	product Description
25G AOC	25G SFP28 Active Optical Cables 0°C~70°C
25G AOC	25G SFP28 Active Optical Cables -40°C~85°C
XXX :001~070,1~70 Length in meters on OM3 MMF XXX :001~100,1~100 Length in meters on OM4 MMF	