DAPSDM035000000

MSA Compliant 50GBase-CU SFP-DD to SFP-DD Direct Attach Cable (Passive Twinax, 3m, 27AWG)

Product Description

This is an MSA compliant 50GBase-CU SFP-DD to SFP-DD direct attach cable that operates over passive copper with a maximum reach of 3.0m (9.8ft). It has been programmed, uniquely serialized, and data-traffic and application tested to ensure it is 100% compliant and functional. This direct attach cable is built to comply with MSA (Multi-Source Agreement) standards. We stand behind the quality of our products and proudly offer a limited lifetime warranty.

Skylane's transceivers are RoHS compliant and lead-free.

Features:

- SFP-DD module compliant to SFP-DD MSA Rev. 2.1
- SFP-DD-MIS Rev. 2.0
- Compliant to IEEE802.3cd & IEEE802.3bj high-frequency test standards
- 27AWG
- Passive twinax
- 50Gbps transmission
- Operating Temperature 0 to 70 Celsius
- Built-in EEPROM functions
- RoHS compliant and lead-free

Applications:

- 50GBase Ethernet

For your product safety, please read the following information carefully before any manipulation of the transceiver:

ESD

This transceiver is specified as ESD threshold 1kV for SFI pins and 2kV for all others electrical input pins, tested per MIL-STD-883G, Method 3015.4 /JESD22-A114-A (HBM). However, normal ESD precautions are still required during the handling of this module.

LASER SAFETY

This is a Class1 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).

The optical ports of the module need to be terminated with an optical connector or with a dust plug in order to avoid contamination.

Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit
Supply Voltage	Vcc	3.13	3.3	3.47	V
Storage Temperature	Tstg	-40		85	°C
Operating Case Temperature	Tc	0		70	°C
Humidity	RH	5		85	%
Data Rate (FDR10)			50		Gbps

Physical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit
Length	L			3	m
AWG				27	AWG
Jacket Material	Black PVC				
Flame Rating	VW-1				

Electrical Specifications

Parameter	Symbol	Min.	Typ.	Max.	Unit
Resistance	Rcon			3	Ω
Insulation Resistance	Rins			10	MΩ
Raw Cable Impedance	Zca	95		110	Ω
Mated Connector Impedance	Zmated	85		110	Ω
Maximum Insertion Loss at 13.28GHz	SDD21	8		17.16	dB
Differential to Common-Mode Return Loss	SCD11/22	$\text{Return\_loss(f)} \geq \begin{cases} 22-(\frac{20}{25.78})f, & 0.01 \leq f < 12.89 \\ 15-\left(\frac{6}{25.78}\right)f, & 12.89 \leq f \leq 19 \end{cases}$			dB
Differential to Common-Mode Conversion Loss	SCD21-SDD21	$\text{Conversion\_loss(f)} - \text{IL(f)} \geq \begin{cases} 10, & 0.01 \leq \text{f} < 12.89 \\ 27-\left(\frac{29}{22}\right)\text{f}, & 12.89 \leq \text{f} < 15.7 \\ 6.3, & 15.7 \leq f \leq 19 \end{cases}$			dB
Minimum COM	COM	3			dB
Rise Time (20-80%)				25	ps

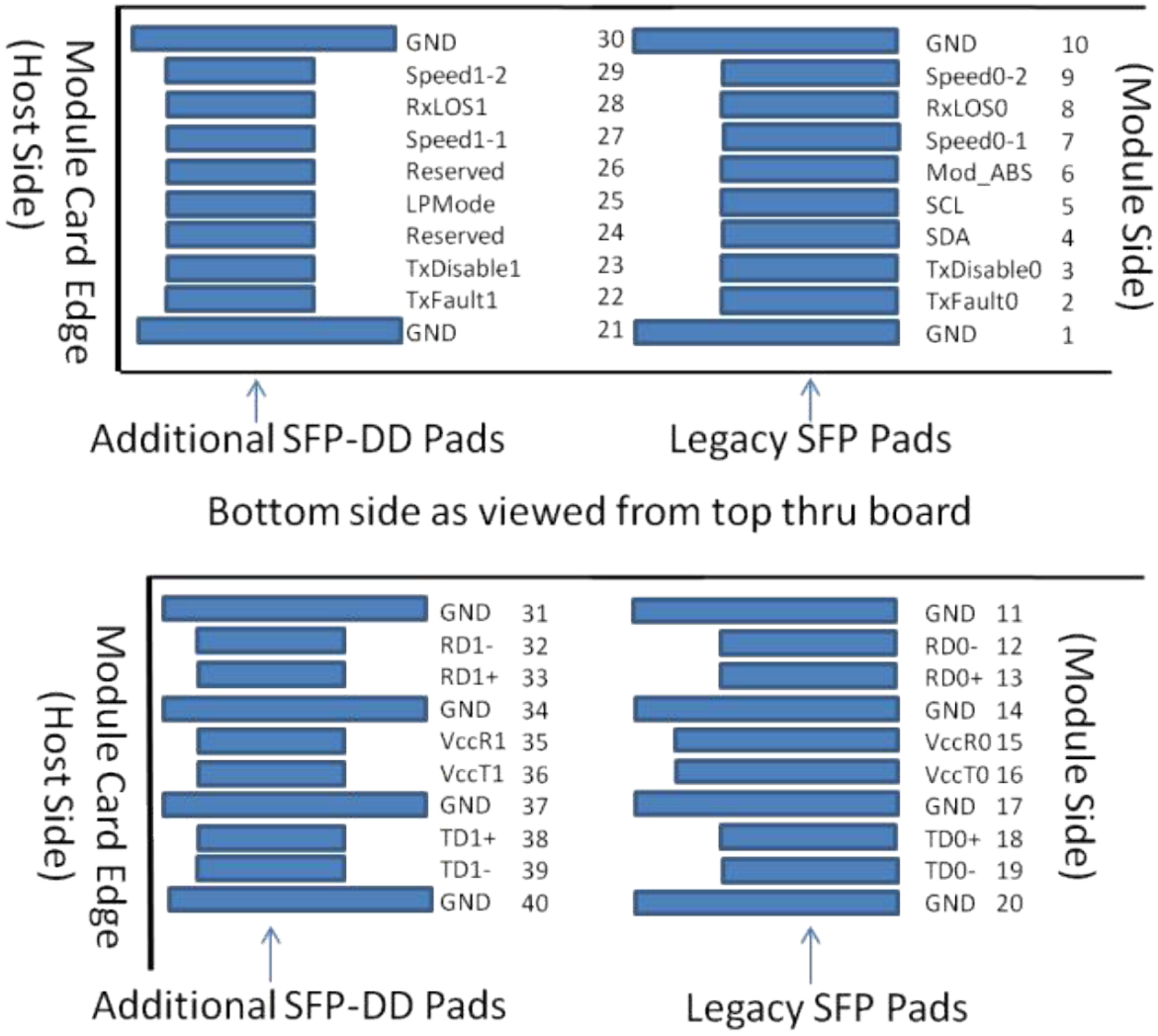
Pin Descriptions

Pin	Logic	Symbol	Name/Description	Plug Sequence	Notes
1		GND	Module Ground.	1A	1
2	LVTTL-O	Tx_Fault0	Transmitter Fault Indication for Channel 0.	3A	
3	LVTTL-I	Tx_Disable0	Transmitter Disable for Channel 0.	3A	
4	LVCMOS-I/O	SDA	Management I/F Data.	3A	
5	LVCMOS-I/O	SCL	Management I/F Clock.	3A	
6	LVTTL-O	MOD_ABS	Module Absent.	3A	
7	LVTTL-I	Speed0-1	Rx Rate Select for Channel 0.	3A	
8	LVTTL-O	RxLOS0	Rx Loss of Signal for Channel 0.	3A	
9	LVTTL-I	Speed0-2	Tx Rate Select for Channel 0.	3A	
10		GND	Module Ground.	1A	1
11		GND	Module Ground.	1A	1
12	CML-O	RD0-	Inverse Received Data Out for Channel 0.	3A	
13	CML-O	RD0+	Received Data Out for Channel 0.	3A	
14		GND	Module Ground.	1A	1
15		VccR0	Receiver Power.	2A	2
16		VccT0	Transmitter Power.	2A	2
17		GND	Module Ground.	1A	1
18	CML-I	TD0+	Transmit Data In for Channel 0.	3A	
19	CML-I	TD0-	Inverse Transmit Data In for Channel 0.	3A	
20		GND	Module Ground.	1A	1
21		GND	Module Ground.	1B	1
22	LVTTL-O	Tx_Fault1	Transmitter Fault Indication/Interrupt for Channel 1.	3B	
23	LVTTL-I	Tx_Disable1	Transmitter Disable for Channel 1.	3B	
24		Reserved	Reserved for Future Use.	3B	
25	LVTTL-I	LPMode	Low-Power Mode Control.	3B	
26		Reserved	Reserved for Future Use.	3B	
27	LVTTL-I	Speed1-1	Rx Rate Select for Channel 1.	3B	
28	LVTTL-O	RxLOS1	Loss of Signal for Channel 1.	3B	
29	LVTTL-I	Speed1-2	Tx Rate Select for Channel 1.	3B	
30		GND	Module Ground.	1B	1
31		GND	Module Ground.	1B	1
32	CML-O	RD1-	Inverse Received Data Out for Channel 1.	3B	
33	CML-O	RD1+	Received Data Out for Channel 1.	3B	
34		GND	Module Ground.	1B	1
35		VccR1	Receiver Power for Channel 1.	2B	2
36		VccT1	Transmitter Power for Channel 1.	2B	2
37		GND	Module Ground.	1B	1
38	CML-I	TD1+	Transmit Data In for Channel 1.	3B	
39	CML-I	TD1-	Inverse Transmit Data In for Channel 1.	3B	
40		GND	Module Ground.	1B	1

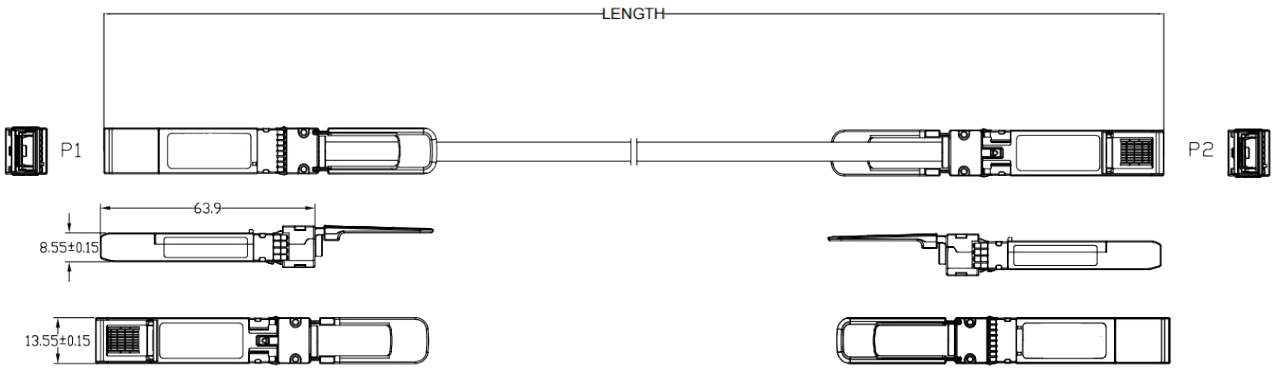
Notes:

1. GND is the symbol for signal and supply (power) common for the module. All are common within the module, and all module voltages are referenced to this potential unless otherwise noted. Connect these directly to the host board signal-common ground plane.
2. VccT0, VccT1, VccR0, and VccR1 are applied concurrently and may be internally connected within the module in any combination.

Electrical Pin-Out Details



Mechanical Specifications



Notes:

1. 4 pairs, black PVC jacket, and RoHS 2.0 compliant.
2. 100% conductor test conditions: voltage of 5V, insulation resistance of 10MΩ, and a conduction resistance of maximum 3Ω.
3. High-frequency test according to IEEE802.3bj & IEEE802.3cd standards.

About Skylane Optics

Skylane is a leading provider of transceivers for optical communication.

We offer an extensive portfolio for the enterprise, access, datacenter and metropolitan fiber optical market as well as for smart home applications and home networks.

We cover the European, South American and North American market with a strong partner network and have offices in Belgium, Brazil, Sweden and USA.

Our offerings are characterized by high quality and performance. In combination with our strong technical support, we enable our customers to build cost optimized network solutions.

We offer an extensive range of high-quality products including transceivers (Optical and copper), Active Optical Cable (AOC), Direct Attach Cable (DAC), Mux/Demux, Coding Box.