SFPDD-50GB-PDAC0-5M-AO

MSA and TAA 50GBase-CU SFP-DD to SFP-DD Direct Attach Cable (Passive Twinax, 0.5m, 30AWG)

Features

- SFP-DD module compliant to SFP-DD MSA Rev. 2.1Is
- SFP-DD-MIS Rev. 2
- Compliant to IEEE802.3cd & IEEE802.3bj high-frequency test standards
- 30AWG
- Passive twinax
- 50Gbps transmission
- Operating Temperature 0 to 70 Celsius
- Built-in EEPROM functions
- RoHS compliant and lead-free

Applications

- 50GBase Ethernet

Product Description

This is a MSA Compliant 50GBase-CU SFP-DD to SFP-DD direct attach cable that operates over passive copper with a maximum reach of 0.5m. It has been programmed, uniquely serialized, and data-traffic and application tested to ensure it is 100% compliant and functional. We stand behind the quality of our products and proudly offer a limited lifetime warranty. This cable is TAA (Trade Agreements Act) compliant and is built to comply with MSA (Multi-Source Agreement) standards.

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

TAA refers to the Trade Agreements Act (19 U.S.C. & 2501-2581), which is intended to foster fair and open international trade. TAA requires that the U.S. Government may acquire only "U.S. – made or designated country end products."

TAA COMPLIANT

Rev. 041123

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			0.5	m
AWG				30	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

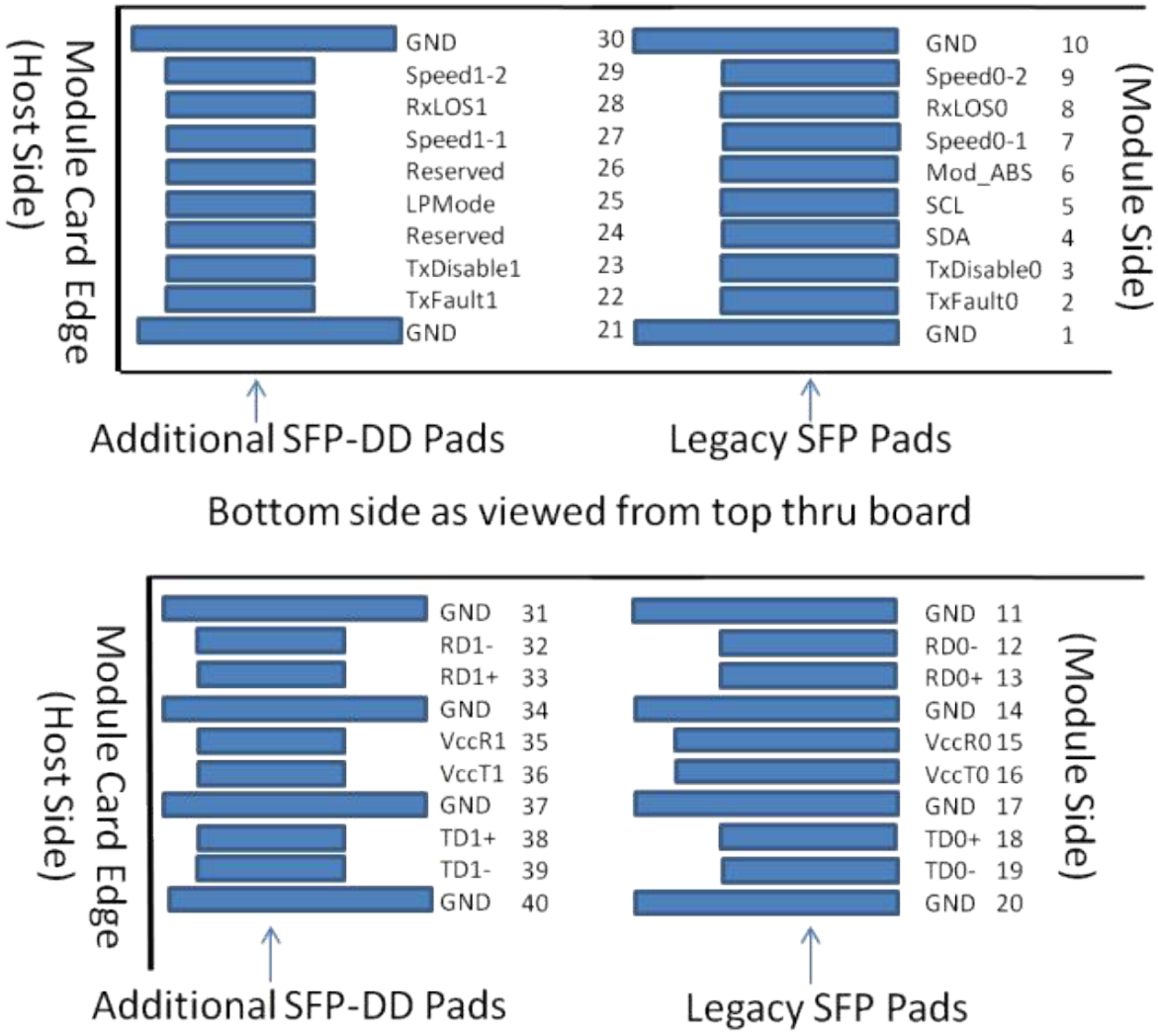
Pin Descriptions

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

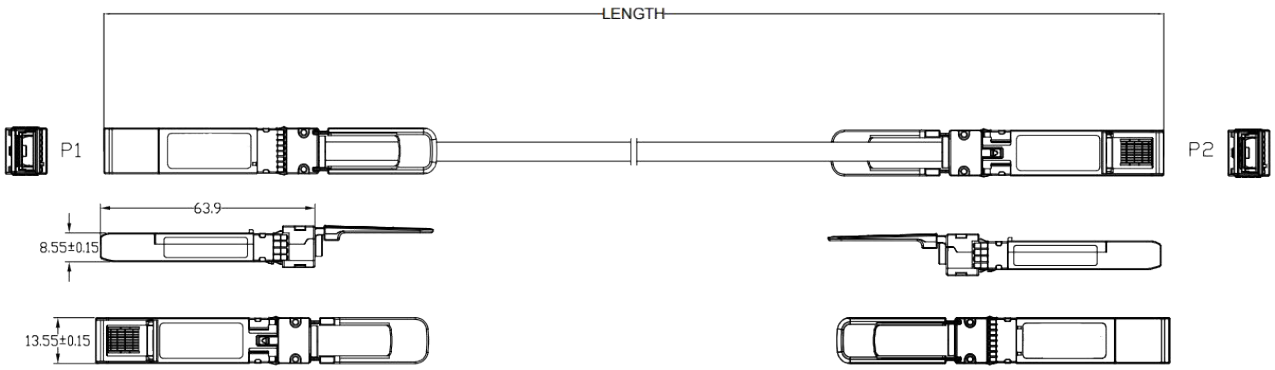
Notes:

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 AddOn Networks

In 1999, AddOn Networks entered the market with a single product. Our founders fulfilled a severe shortage for compatible, cost-effective optical transceivers that compete at the same performance levels as leading OEM manufacturers. Adhering to the idea of redefining service and product quality not previously had in the fiber optic networking industry, AddOn invested resources in solution design, production, fulfillment, and global support.

Combining one of the most extensive and stringent testing processes in the industry, an exceptional free tech support center, and a consistent roll-out of innovative technologies, AddOn has continually set industry standards of quality and reliability throughout its history.

Reliability is the cornerstone of any optical fiber network and is in engrained in AddOn's DNA. It has played a key role in nurturing the long-term relationships developed over the years with customers. AddOn remains committed to exceeding industry standards with certifications from ranging from NEBS Level 3 to ISO 9001:2005 with every new development while maintaining the signature reliability of its products.

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