

#### SFPDD-50GB-PDAC1M-PRO

MSA and TAA 50GBase-CU SFP-DD to SFP-DD Direct Attach Cable (Passive Twinax, 1m, 30AWG)

#### **Features**

- SFP-DD module compliant to SFP-DD MSA Rev. 2.1Is
- SFP-DD-MIS Rev. 2.0
- 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 1m. 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.

Proline'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.



# **Absolute Maximum Ratings**

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

## **Physical Characteristics**

Parameter	Symbol	Min.	Тур.	Max.	Unit
Length	L			1	m
AWG				30	AWG
Jacket Material	Black PVC				
Flame Rating	VW-1				

# **Electrical Specifications**

Parameter	Symbol	Min.	Тур.	Max.	Unit
Resistance	Rcon			3	Ω
Insulation Resistance	Rins			10	ΜΩ
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	Return_loss(f) $\ge$ $ \begin{cases} 22 - (\frac{20}{25.78})f, \\ 15 - (\frac{6}{25.78})f, \end{cases} $	≥ 0.01 ≤ 12.8	$5 f < 12.89$ $9 \le f \le 19$	dB
Differential to Common-Mode Conversion Loss	SCD21-SDD21	Conversion_loss $ \begin{cases} 10, \\ 27 - \left(\frac{29}{22}\right) f, \\ 6.3, \end{cases} $	$f(f) - IL(f) \ge 0.01 \le f < 12.89 \le f$ $f(f) = 15.7 \le f(f)$	< 15.7	dB
Minimum COM	СОМ	3			dB
Rise Time (20-80%)				25	ps

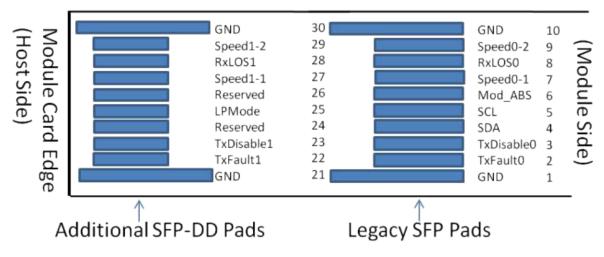
# **Pin Descriptions**

Name/Description		scriptions				
SND	Pin	Logic	Symbol	Name/Description		Notes
1	1		GND	Module Ground.		1
4         LVCMOS-I/O         SDA         Management I/F Data.         3A           5         LVCMOS-I/O         SCL         Management I/F Clock.         3A           6         LVTTL-I         Speedd-1         Rx Rate Select for Channel 0.         3A           7         LVTTL-I         Speedd-1         Rx Rate Select for Channel 0.         3A           8         LVTTL-I         Speedd-2         Tx Rate Select for Channel 0.         3A           10         GND         Module Ground.         1A         1           11         GND         Module Ground.         1A         1           12         CML-O         RDO-         Inverse Received Data Out for Channel 0.         3A           13         CML-O         RDO-         Received Data Out for Channel 0.         3A           14         GND         Module Ground.         1A         1           15         VccR0         Receiver Dower.         2A         2           16         VccT0         Transmitter Power.         2A         2           17         GND         Module Ground.         1A         1           18         CML-I         TDO-         Transmitter Data In for Channel 0.         3A           <	2	LVTTL-O	Tx_Fault0	Transmitter Fault Indication for Channel 0.	3A	
5         LVCMOS-I/O         SCL         Management //F Clock.         3A           6         LVTIL-O         MOD_ABS         Module Absent.         3A           7         LVTIL-I         Speed0-1         Rx Rase Select for Channel 0.         3A           8         LVTTL-I         Speed0-2         Rx Rase Select for Channel 0.         3A           9         LVTIL-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         RDO-         Inverse Received Data Out for Channel 0.         3A           13         CML-O         RDO-         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         TDO-         Inverse Transmit Data In for Channel 0.         3A           <	3	LVTTL-I	Tx_Disable0	Transmitter Disable for Channel 0.	3A	
6         LVTTL-0         MOD_ABS         Module Absent.         3A           7         LVTTL-1         Speed0-1         Rx Rate Select for Channel 0.         3A           8         LVTTL-0         RxLOSO         Rx Loss of Signal for Channel 0.         3A           9         LVTTL-1         Speed0-2         Tx Rate Select for Channel 0.         3A           10         GND         Module Ground.         1A         1           11         GND         Module Ground.         1A         1           12         CML-O         RDO-         Inverse Received Data Out for Channel 0.         3A           13         CML-O         RDO-         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           16         VccT0         Transmitter Power.         2A         2           17         GND         Module Ground.         1A         1           18         CML-1         TDO-         Inverse Transmit Data In for Channel 0.         3A           20 <th>4</th> <th>LVCMOS-I/O</th> <th>SDA</th> <th>Management I/F Data.</th> <th>3A</th> <th></th>	4	LVCMOS-I/O	SDA	Management I/F Data.	3A	
Text    Text	5	LVCMOS-I/O	SCL	Management I/F Clock.	3A	
Section	6	LVTTL-O	MOD_ABS	Module Absent.	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         RDD-         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           16         VcCT0         Transmitter Power.         2A         2           16         VcCT0         Transmitter Data In for Channel 0.         3A         1           18         CML-I         TD0+         Transmit Data In for Channel 0.         3A         3A           19         CML-I         TD0-         Inverse Transmit Data In for Channel 0.         3A         1           20         GND         Module Ground.         1A         1         1           21         UVTTL-I         Tx_Fault1         Transmitter Fault Indi	7	LVTTL-I	Speed0-1	Rx Rate Select for Channel 0.	3A	
10	8	LVTTL-O	RxLOS0	Rx Loss of Signal for Channel 0.	3A	
11         GND         Module Ground.         1A         1           12         CMI-O         RDO-         Inverse Received Data Out for Channel 0.         3A           13         CML-O         RDO+         Received Data Out for Channel 0.         3A           14         GND         Module Ground.         1A         1           15         VccRO         Receiver Power.         2A         2           16         VcCTO         Transmitter Power.         2A         2           16         VcCTO         Transmitter Power.         2A         2           17         GND         Module Ground.         1A         1           18         CML-I         TDO+         Transmit Data In for Channel 0.         3A           19         CML-I         TDO-         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_Fault1         Transmitter Disable for Channel 1.         3B <t< th=""><th>9</th><th>LVTTL-I</th><th>Speed0-2</th><th>Tx Rate Select for Channel 0.</th><th>3A</th><th></th></t<>	9	LVTTL-I	Speed0-2	Tx Rate Select for Channel 0.	3A	
12         CML-O         RDO-         Inverse Received Data Out for Channel 0.         3A           13         CML-O         RDO+         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         TDO+         Transmit Data In for Channel 0.         3A           19         CML-I         TDO-         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_Fault1         Transmitter Disable for Channel 1.         3B           24         Reserved         Reserved for Future Use.         3B           25         LVTTL-I         LPMode         Low-Power Mode Control.         3B <th>10</th> <th></th> <th>GND</th> <th>Module Ground.</th> <th>1A</th> <th>1</th>	10		GND	Module Ground.	1A	1
13	11		GND	Module Ground.	1A	1
14	12	CML-O	RD0-	Inverse Received Data Out for Channel 0.	3A	
15         VCCRO         Receiver Power.         2A         2           16         VCCTO         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           21         GND         Module Ground.         1B         1           22         LVTTL-O         Tx_Fault1         Transmitter Disable for Channel 1.         3B         1           23         LVTTL-I         Tx_Disable1         Transmitter Disable for Channel 1.         3B         3B           24         Reserved         Reserved for Future Use.         3B         3B         3B           25         LVTTL-I         LPMode         Low-Power Mode Control.         3B         3B         3B           26         Reserved         Reserved for Future Use.         3B         3B         3B         3B           27 </th <th>13</th> <th>CML-O</th> <th>RD0+</th> <th>Received Data Out for Channel 0.</th> <th>3A</th> <th></th>	13	CML-O	RD0+	Received Data Out for Channel 0.	3A	
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         1           23         LVTTL-I         Tx_Disable1         Transmitter Disable for Channel 1.         3B         3B           24         Reserved         Reserved for Future Use.         3B         3B         3B           25         LVTTL-I         LPMode         Low-Power Mode Control.         3B         3B         3B           26         Reserved         Reserved for Future Use.         3B         3B         3B           27         LVTTL-I         Speed1-1         Rx Rate Select for Channel 1.         3B         3B           28         LVTTL-I         Speed1-2         Tx Rate Select for Cha	14		GND	Module Ground.	1A	1
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         LVTL-I         Speed1-2         Tx Rate Select for Channel 1.         3B           30         GND         Module Ground.         1B         1 <th>15</th> <th></th> <th>VccR0</th> <th>Receiver Power.</th> <th>2A</th> <th>2</th>	15		VccR0	Receiver Power.	2A	2
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         LVTL-I         Speed1-2         Tx Rate Select for Channel 1.         3B           30         GND         Module Ground.         1B         1           31         GND         Module Ground.         1B         1 <th>16</th> <th></th> <th>VccT0</th> <th>Transmitter Power.</th> <th>2A</th> <th>2</th>	16		VccT0	Transmitter Power.	2A	2
19   CML-I   TDO-	17		GND	Module Ground.	1A	1
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+         Received Data Out for Channel 1.         3B           33         CML-O         RD1+         Received Data Out for Channel 1.         2B	18	CML-I	TD0+	Transmit Data In for Channel 0.	3A	
21	19	CML-I	TD0-	Inverse Transmit Data In for Channel 0.	3A	
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 <th>20</th> <th></th> <th>GND</th> <th>Module Ground.</th> <th>1A</th> <th>1</th>	20		GND	Module Ground.	1A	1
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	21		GND	Module Ground.	1B	1
Reserved   Reserved for Future Use.   3B   25	22	LVTTL-O	Tx_Fault1	Transmitter Fault Indication/Interrupt for Channel 1.	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 <tr< th=""><th>23</th><th>LVTTL-I</th><th>Tx_Disable1</th><th>Transmitter Disable for Channel 1.</th><th>3B</th><th></th></tr<>	23	LVTTL-I	Tx_Disable1	Transmitter Disable for Channel 1.	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     <	24		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	25	LVTTL-I	LPMode	Low-Power Mode Control.	3B	
28         LVTTL-O         RxLOS1         Loss of Signal for Channel 1.         38           29         LVTTL-I         Speed1-2         Tx Rate Select for Channel 1.         38           30         GND         Module Ground.         18         1           31         GND         Module Ground.         18         1           32         CML-O         RD1-         Inverse Received Data Out for Channel 1.         38           33         CML-O         RD1+         Received Data Out for Channel 1.         38           34         GND         Module Ground.         18         1           35         VccR1         Receiver Power for Channel 1.         28         2           36         VccT1         Transmitter Power for Channel 1.         28         2           37         GND         Module Ground.         18         1           38         CML-I         TD1+         Transmit Data In for Channel 1.         38           39         CML-I         TD1-         Inverse Transmit Data In for Channel 1.         38	26		Reserved	Reserved for Future Use.	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	27	LVTTL-I	Speed1-1	Rx 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	28	LVTTL-O	RxLOS1	Loss of Signal for Channel 1.	3B	
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	29	LVTTL-I	Speed1-2	Tx Rate Select for Channel 1.	3B	
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	30		GND	Module Ground.	1B	1
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	31		GND	Module Ground.	1B	1
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	32	CML-O	RD1-	Inverse Received Data Out for Channel 1.	3B	
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	33	CML-O	RD1+	Received Data Out for Channel 1.	3B	
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	34		GND	Module Ground.	1B	1
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	35		VccR1	Receiver Power for Channel 1.	2B	2
38CML-ITD1+Transmit Data In for Channel 1.3B39CML-ITD1-Inverse Transmit Data In for Channel 1.3B	36		VccT1	Transmitter Power for Channel 1.	2B	2
39 CML-I TD1- Inverse Transmit Data In for Channel 1. 3B	37		GND	Module Ground.	1B	1
	38	CML-I	TD1+	Transmit Data In for Channel 1.	3B	
40         GND         Module Ground.         1B         1	39	CML-I	TD1-	Inverse Transmit Data In for Channel 1.	3B	
	40		GND	Module Ground.	1B	1

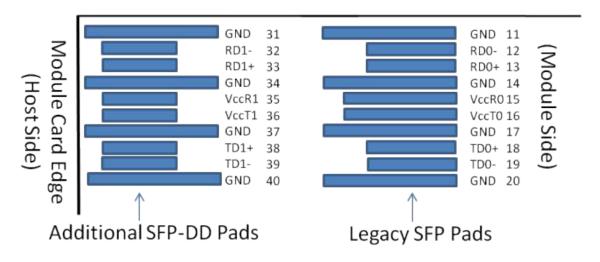
#### Notes:

- 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.

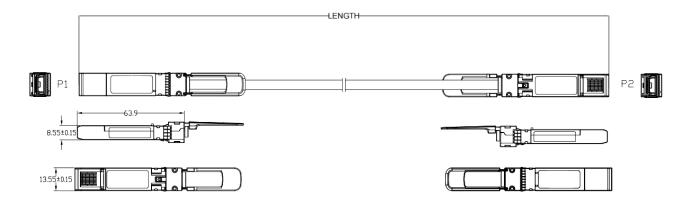
### **Electrical Pin-Out Details**



# Bottom side as viewed from top thru board



## **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  $10M\Omega$ , and a conduction resistance of maximum  $3\Omega$ .
- 3. High-frequency test according to IEEE802.3bj & IEEE802.3cd standards.

#### **About Us:**

Proline Options is one of North America's leading providers of transceivers and high speed cabling. With a reputation for quality, tested products that cover the connectivity spectrum, Proline Options has a solution for you regardless of the specification.

At Proline Options, every product is tested in its intended application - never batch or spec tested only. We run bandwidth, distance and IOS network tests. We have documented an impressive 0.03% failure rate over the last 10 years. To continue this rate of success we invest millions annually in our own on-site testing lab.



Tel: 855.933.3223

Email: sales@prolineoptions.com

Email: techsupport@prolineoptions.com Web: https://www.prolineoptions.com