

<b>TITLE</b>  <b>200G QSFP-DD Active Copper Cable - PAM4</b>	<b>DOC No. RFD-20260209500-001</b>	
	<b>REVISION :</b> <b>01</b>	<b>AUTHORIZED BY :</b> <b>Jeff Lo</b>
	<b>DATE :</b> <b>2026.02.09</b>	<b>CLASSIFICATION :</b> <b>CONFIDENTIAL</b>

## **1. GENERAL DESCRIPTION**

QSFP-DD active copper cable assembly feature sixteen differential copper pairs, providing eight data transmission channels at speeds up to 25Gbps (NRZ) per channel, and meets 200G Ethernet and InfiniBand Enhanced Data Rate (EDR) requirements. Available in a broad range of wire gages from 26AWG through 30AWG-this 400G copper cable assembly features low insertion loss and low crosstalk.

## **2. FEATURES AND BENEFITS**

- Compatible with IEEE 802.3bj
- Supports aggregate data rates of 200Gbps
- Optimized construction to minimize insertion loss and crosstalk
- Pull-to-release slide latch design
- Straight and break out assembly configurations available
- Customized cable braid termination limits EMI radiation
- Customizable EEPROM mapping for cable signature
- 26AWG through 30AWG cable
- Up to 5meter transmission
- 3.3V Power supply
- Low power Consumes 0.15W per active channel, the total power of the cable is 2.5W
- EQ programmable
- Temperature Range: 0~ 70 °C

<b>TITLE</b>  <b>200G QSFP-DD Active Copper Cable - PAM4</b>	<b>DOC No. RFD-20260209500-001</b>	
	<b>REVISION :</b> <b>01</b>	<b>AUTHORIZED BY :</b> <b>Jeff Lo</b>
	<b>DATE :</b> <b>2026.02.09</b>	<b>CLASSIFICATION :</b> <b>CONFIDENTIAL</b>

### 3. PRODUCT APPLICATIONS

- Switches, servers, and routers
- Data Center networks
- Storage area networks
- High performance computing
- Telecommunication and wireless infrastructure
- Medical diagnostics and networking
- Test and measurement equipment

### 4. INDUSTRY STANDARDS

- 200G Ethernet (IEEE 802.3bj)
- InfiniBand EDR

### 5. PIN DESCRIPTIONS

#### QSFP-DD Pin Function Definition

Pin	Logic	Symbol	Description
1		GND	Ground
2	CML-I	Tx2n	Transmitter Inverted Data Input
3	CML-I	Tx2p	Transmitter Non-Inverted Data Input
4		GND	Ground
5	CML-I	Tx4n	Transmitter Inverted Data Input
6	CML-I	Tx4p	Transmitter Non-Inverted Data Input
7		GND	Ground
8	LVTTL-I	ModSelL	Module Select
9	LVTTL-I	ResetL	Module Reset
10		Vcc Rx	+3.3V Power Supply Receiver

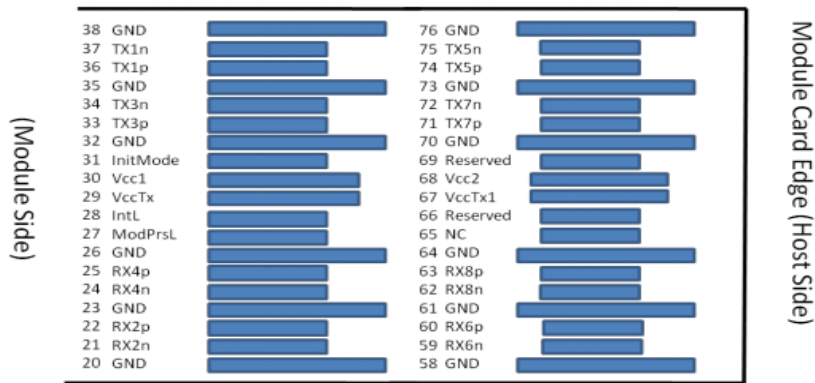
<b>TITLE</b>  <b>200G QSFP-DD Active Copper Cable - PAM4</b>	<b>DOC No. RFD-20260209500-001</b>	
	<b>REVISION :</b> <b>01</b>	<b>AUTHORIZED BY :</b> <b>Jeff Lo</b>
	<b>DATE :</b> <b>2026.02.09</b>	<b>CLASSIFICATION :</b> <b>CONFIDENTIAL</b>

11	LVC MOS- I/O	SCL	2-wire serial interface clock
12	LVC MOS- I/O	SDA	2-wire serial interface data
13		GND	Ground
14	CML-O	Rx3p	Receiver Non-Inverted Data Output
15	CML-O	Rx3n	Receiver Inverted Data Output
16		GND	Ground
17	CML-O	Rx1p	Receiver Non-Inverted Data Output
18	CML-O	Rx1n	Receiver Inverted Data Output
19		GND	Ground
20		GND	Ground
21	CML-O	Rx2n	Receiver Inverted Data Output
22	CML-O	Rx2p	Receiver Non-Inverted Data Output
23		GND	Ground
24	CML-O	Rx4n	Receiver Inverted Data Output
25	CML-O	Rx4p	Receiver Non-Inverted Data Output
26		GND	Ground
27	LVTTL-O	ModPrsL	Module Present
28	LVTTL-O	IntL	Interrupt
29		Vcc Tx	+3.3V Power supply transmitter
30		Vcc1	+3.3V Power supply
31	LVTTL-I	LPMODE	Low Power Mode
32		GND	Ground
33	CML-I	Tx3p	Transmitter Non-Inverted Data Input
34	CML-I	Tx3n	Transmitter Inverted Data Input
35		GND	Ground
36	CML-I	Tx1p	Transmitter Non-Inverted Data Input
37	CML-I	Tx1n	Transmitter Inverted Data Input
38		GND	Ground
39		GND	Ground
40	CML-I	Tx6n	Transmitter Inverted Data Input
41	CML-I	Tx6p	Transmitter Non-Inverted Data Input
42		GND	Ground
43	CML-I	Tx8n	Transmitter Inverted Data Input
44	CML-I	Tx8p	Transmitter Non-Inverted Data Input
45		GND	Ground
46		Reserved	
47		VS1	

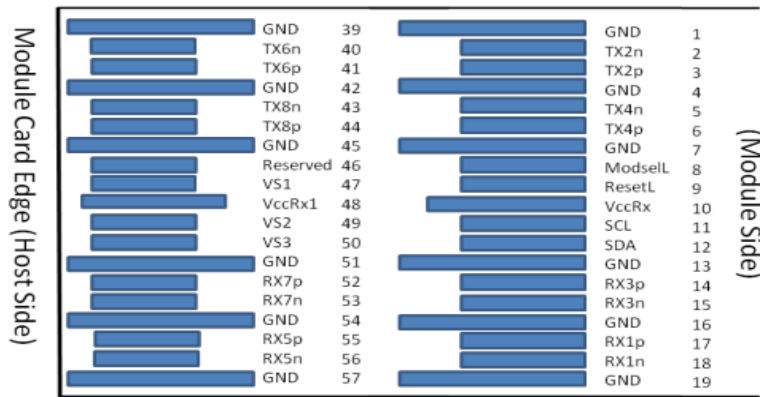
<b>TITLE</b>  <b>200G QSFP-DD Active Copper Cable - PAM4</b>	<b>DOC No. RFD-20260209500-001</b>	
	<b>REVISION :</b> <b>01</b>	<b>AUTHORIZED BY :</b> <b>Jeff Lo</b>
	<b>DATE :</b> <b>2026.02.09</b>	<b>CLASSIFICATION :</b> <b>CONFIDENTIAL</b>

48		VccRx1	+3.3V Power supply
49		VS2	
50		VS3	
51		GND	Ground
52	CML-O	Rx7p	Receiver Non-Inverted Data Output
53	CML-O	Rx7n	Receiver Inverted Data Output
54		GND	Ground
55	CML-O	Rx5p	Receiver Non-Inverted Data Output
56	CML-O	Rx5n	Receiver Inverted Data Output
57		GND	Ground
58		GND	Ground
59	CML-O	Rx6n	Receiver Inverted Data Output
60	CML-O	Rx6p	Receiver Non-Inverted Data Output
61		GND	Ground
62	CML-O	Rx8n	Receiver Inverted Data Output
63	CML-O	Rx8p	Receiver Non-Inverted Data Output
64		GND	Ground
65		NC	
66		Reserved	
67		VccTx1	+3.3V Power supply
68		VCC2	+3.3V Power supply
69		Reserved	
70		GND	Ground
71	CML-I	Tx7p	Transmitter Non-Inverted Data Input
72	CML-I	Tx7n	Transmitter Inverted Data Input
73		GND	Ground
74	CML-I	Tx5p	Transmitter Non-Inverted Data Input
75	CML-I	Tx5n	Transmitter Inverted Data Input
76		GND	Ground

<b>TITLE</b>  <b>200G QSFP-DD Active Copper Cable - PAM4</b>	<b>DOC No. RFD-20260209500-001</b>	
	<b>REVISION :</b> <b>01</b>	<b>AUTHORIZED BY :</b> <b>Jeff Lo</b>
	<b>DATE :</b> <b>2026.02.09</b>	<b>CLASSIFICATION :</b> <b>CONFIDENTIAL</b>



Top side viewed from top



Bottom side viewed from bottom



**6. GENERAL PRODUCT CHARACTERISTICS**

<b>QSFP-DD ACC Specifications</b>	
Number of Lanes	Tx8 & Rx8

<b>TITLE</b>  <b>200G QSFP-DD Active Copper Cable - PAM4</b>	<b>DOC No. RFD-20260209500-001</b>	
	<b>REVISION :</b> <b>01</b>	<b>AUTHORIZED BY :</b> <b>Jeff Lo</b>
	<b>DATE :</b> <b>2026.02.09</b>	<b>CLASSIFICATION :</b> <b>CONFIDENTIAL</b>

Channel Data Rate	25.78125Gbps
Operating Temperature	0 to + 70°C
Storage Temperature	-40 to + 85°C
Supply Voltage	3.3 V nominal
Electrical Interface	76pins edge connector
Management Interface	Serial, I <sup>2</sup> C

## **7. HIGH SPEED CHARACTERISTICS**

<b>Parameter</b>	<b>Symbol</b>	<b>Min</b>	<b>Typical</b>	<b>Max</b>	<b>Unit</b>	<b>Note</b>
Differential Impedance	TDR	90	100	110	Ω	
Insertion loss	SDD21	-22.48			dB	At 12.89 GHz
Differential Return Loss	SDD11 SDD22			See 1	dB	At 0.05 to 4.1 GHz
				See 2	dB	At 4.1 to 19 GHz
Common-mode to common-mode output return loss	SCC11 SCC22			-2	dB	At 0.2 to 19 GHz
Differential to common-mode return loss	SCD11 SCD22			See 3	dB	At 0.01 to 12.89 GHz
				See 4		At 12.89 to 19 GHz
Differential to common Mode Conversion Loss	SCD21-IL			-10	dB	At 0.01 to 12.89 GHz
				See 5		At 12.89 to 15.7 GHz
				-6.3		At 15.7 to 19 GHz

<b>TITLE</b>  <b>200G QSFP-DD Active Copper Cable - PAM4</b>	<b>DOC No. RFD-20260209500-001</b>	
	<b>REVISION :</b> <b>01</b>	<b>AUTHORIZED BY :</b> <b>Jeff Lo</b>
	<b>DATE :</b> <b>2026.02.09</b>	<b>CLASSIFICATION :</b> <b>CONFIDENTIAL</b>

Notes:

1. Reflection Coefficient given by equation  $SDD11(dB) < -16.5 + 2 \times \text{SQRT}(f)$ , with f in GHz
2. Reflection Coefficient given by equation  $SDD11(dB) < -10.66 + 14 \times \log_{10}(f/5.5)$ , with f in GHz
3. Reflection Coefficient given by equation  $SCD11(dB) < -22 + (20/25.78)*f$ , with f in GHz
4. Reflection Coefficient given by equation  $SCD11(dB) < -15 + (6/25.78)*f$ , with f in GHz
5. Reflection Coefficient given by equation  $SCD21(dB) < -27 + (29/22)*f$ , with f in GHz

**8. MECHANICAL SPECIFICATIONS**

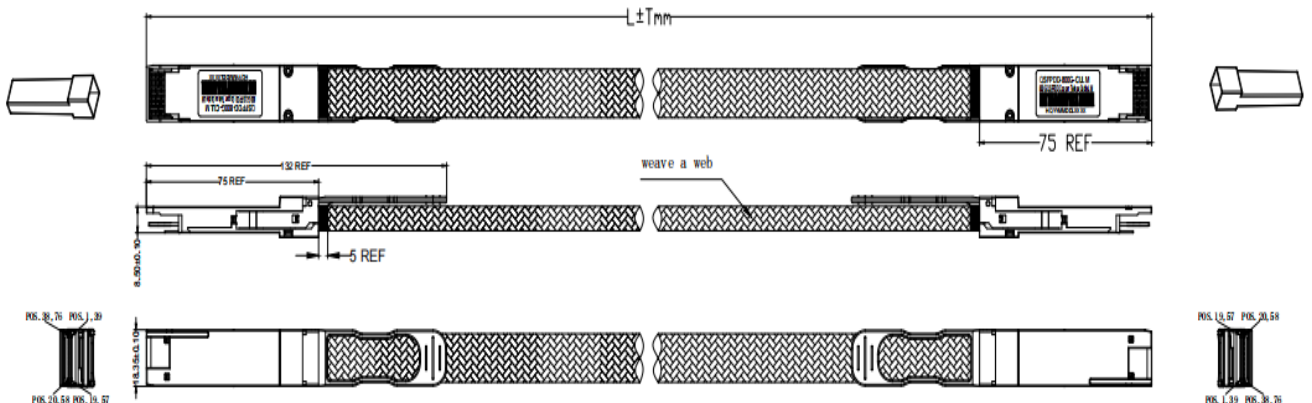
**200G QSFP-DD Active Copper Cable**

JPC P/N	Length(m)	Cable AWG	Description
P62**7A0J**M-1	1.0m – 3.0m	30 AWG	200G QSFP-DD to QSFP-DD ACC 30AWG **m
P62**7C0J**M-1	4.0m – 5.0m	26 AWG	200G QSFP-DD to QSFP-DD ACC 26AWG **m

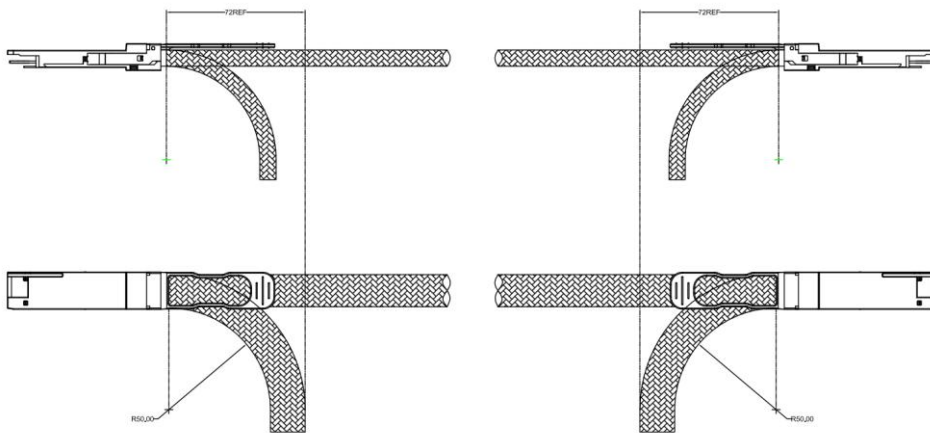
**Note-1 :** \*\* Indicates the customer code.

**Note-2 :** \*\* Indicates the length.

The connector is compatible with the QSFP-DD MSA specification.



<b>TITLE</b>  <b>200G QSFP-DD Active Copper Cable - PAM4</b>	<b>DOC No. RFD-20260209500-001</b>	
	<b>REVISION :</b> <b>01</b>	<b>AUTHORIZED BY :</b> <b>Jeff Lo</b>
	<b>DATE :</b> <b>2026.02.09</b>	<b>CLASSIFICATION :</b> <b>CONFIDENTIAL</b>



Length (m)	Cable AWG
1	30
2	30
3	30
4	26
5	26

## **9. REGULATORY COMPLIANCE**

Feature	Test Method	Performance
Electrostatic Discharge (ESD) to the Electrical Pins	MIL-STD-883C Method 3015.7	Class 1(>2000 Volts)
Electromagnetic Interference (EMI)	FCC Class B	Compliant with Standards
	CENELEC EN55022 Class B	
	CISPR22 ITE Class B	
RF Immunity (RFI)	IEC61000-4-3	Typically Show no Measurable Effect from a 10V/m Field Swept from 80 to 1000MHz

<b>TITLE</b>  <b>200G QSFP-DD Active Copper Cable - PAM4</b>	<b>DOC No. RFD-20260209500-001</b>	
	<b>REVISION :</b> <b>01</b>	<b>AUTHORIZED BY :</b> <b>Jeff Lo</b>
	<b>DATE :</b> <b>2026.02.09</b>	<b>CLASSIFICATION :</b> <b>CONFIDENTIAL</b>

RoHS Compliance	RoHS Directive 2011/65/EU and it's Amendment Directives (EU) 2015/863	RoHS (EU) 2015/863 compliant
REACH Compliance	REACH Regulation (EC) No 1907/2006	REACH (EC) No 1907/2006 compliant

**10. Modification History**

<b>Rev.</b>	<b>Comments</b>	<b>Date</b>	<b>Originator</b>	<b>Approval</b>
01	Preliminary Draft	2026.02.09	Jeff Lo	Mike Sun
02				