

DM-338-GG-XXXX Up to 120 Gbps CXP Passive Cable Assembly

- Compliant with Infiniband Architecture Specification Annex 6
- Hot-pluggable footprint
- Supports Serial ID (write protected)
- Robust Die Cast Housing for EMI Shielding
- Dual Paddle Card Interconnect
- Spring Loaded Pull Tab



Product Overview:

The DM-338-GG-XXXX cable assembly is a high performance integrated duplex data link for bi-directional communication over copper cable in a CXP form factor. The DM-338-GG-XXXX provides 12 pairs of transmit/receive data channels that can operate at transmission speeds up to 120 Gbps. The CXP cable assembly provides an additional elastomeric gasket that forms a 360 degree seal with the host board connector. These cable assemblies are offered in several different wire gauges, depending on the length, to minimize the cable bend radius in a particular application.

The DM-338-GG-XXXX is compliant with the CXP Specification (Infiniband Architecture Annex 6 and SFF-8642).

ORDERING INFORMATION		
Part Number	Wire Gauge	Length
DM-338-30-50	30	½ M
DM-338-30-100	30	1M
DM-338-30-200	30	2M
DM-338-28-200	28	2M
DM-338-28-300	28	3M
DM-338-26-400	26	4M
DM-338-26-500	26	5M
DM-338-26-600	26	6M
DM-338-26-700	26	7M
DM-338-26-800	26	8M
DM-338-26-900	26	9M
DM-338-26-1000	26	10M

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HIGH SPEED SIGNAL							
P1		P2		P1		P2	
PAD	SIGNAL	PAD	SIGNAL	PAD	SIGNAL	PAD	SIGNAL
A2	Tx1p	C2	Rx1p	C2	Rx1p	A2	Tx1p
A3	Tx1n	C3	Rx1n	C3	Rx1n	A3	Tx1n
A5	Tx3p	C5	Rx3p	C5	Rx3p	A5	Tx3p
A6	Tx3n	C6	Rx3n	C6	Rx3n	A6	Tx3n
A8	Tx5p	C8	Rx5p	C8	Rx5p	A8	Tx5p
A9	Tx5n	C9	Rx5n	C9	Rx5n	A9	Tx5n
A11	Tx7p	C11	Rx7p	C11	Rx7p	A11	Tx7p
A12	Tx7n	C12	Rx7n	C12	Rx7n	A12	Tx7n
A14	Tx9p	C14	Rx9p	C14	Rx9p	A14	Tx9p
A15	Tx9n	C15	Rx9n	C15	Rx9n	A15	Tx9n
A17	Tx11p	C17	Rx11p	C17	Rx11p	A17	Tx11p
A18	Tx11n	C18	Rx11n	C18	Rx11n	A18	Tx11n
B2	Tx0p	D2	Rx0p	D2	Rx0p	B2	Tx0p
B3	Tx0n	D3	Rx0n	D3	Rx0n	B3	Tx0n
B5	Tx2p	D5	Rx2p	D5	Rx2p	B5	Tx2p
B6	Tx2n	D6	Rx2n	D6	Rx2n	B6	Tx2n
B8	Tx4p	D8	Rx4p	D8	Rx4p	B8	Tx4p
B9	Tx4n	D9	Rx4n	D9	Rx4n	B9	Tx4n
B11	Tx6p	D11	Rx6p	D11	Rx6p	B11	Tx6p
B12	Tx6n	D12	Rx6n	D12	Rx6n	B12	Tx6n
B14	Tx8p	D14	Rx8p	D14	Rx8p	B14	Tx8p
B15	Tx8n	D15	Rx8n	D15	Rx8n	B15	Tx8n
B17	Tx10p	D17	Rx10p	D17	Rx10p	B17	Tx10p
B18	Tx10n	D18	Rx10n	D18	Rx10n	B18	Tx10n
GND GROUP 01: P1: A1,A4,A7,A10,A13,A16,A19,B1,B4,B7,B10,B13,B16,B19 P2: C1,C4,C7,C10,C13,C16,C19,D1,D4,D7,D10,D13,D16,D19							
GND GROUP 02: P1: C1,C4,C7,C10,C13,C16,C19,D1,D4,D7,D10,D13,D16,D19 P2: A1,A4,A7,A10,A13,A16,A19,B1,B4,B7,B10,B13,B16,B19,							

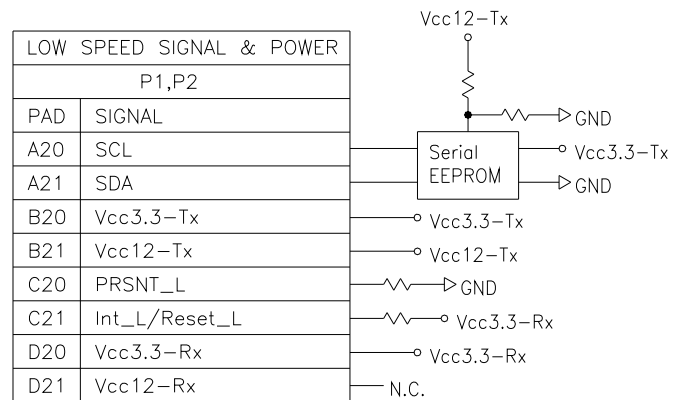
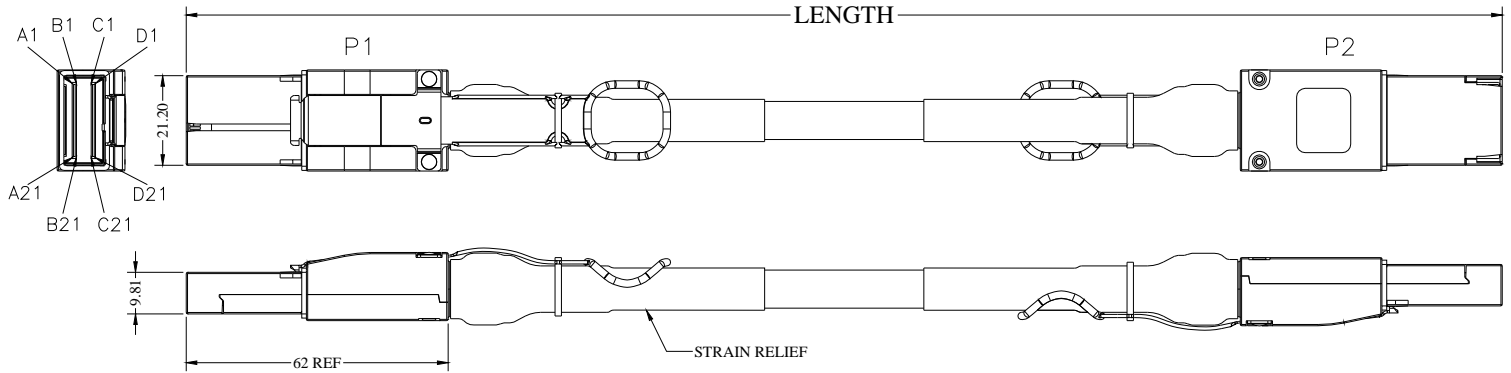


Figure 1: Wiring Diagram



1. CABLE:
- CONDUCTOR (SIGNAL WIRE): SOLID SILVER PLATED COPPER, 24 PAIRS.
 - DRAIN WIRE: SOLID SILVER PLATED COPPER.
 - PAIR SHIELD: ALUMINUM/POLYESTER TAPE, ALUMINUM IN.
 - INNER SHIELD: ALUMINUM/POLYESTER TAPE, ALUMINUM OUT.
 - OUTER SHIELD: TIN PLATED COPPER BRAID.
 - DIFFERENTIAL IMPEDANCE: 100 ± 5 OHMS.
 - CAPACITANCE: 42pF/M NOMINAL FOR 26 AND 28 AWG SIGNAL WIRE.
 - CAPACITANCE: 43 pF/M FOR 30 AWG SIGNAL WIRE.
 - PROP DELAY: 4.25ns/M FOR 26 AND 28 AWG SIGNAL WIRE.
 - PROP DELAY: 4.35ns/M FOR 30 AWG SIGNAL WIRE.
 - JACKET: $\phi 13.6 \pm 1.0$ mm FOR 26 AWG SIGNAL WIRE.
 - JACKET: $\phi 11.3 \pm 1.0$ mm FOR 28 AWG SIGNAL WIRE.
 - JACKET: $\phi 9.8 \pm 1.0$ mm FOR 30 AWG SIGNAL WIRE.
 - (UL) CL2 75°C - RoHS Compliant

2. CONNECTORS:
- P1 & P2: CXP MODULE
- HOUSING: ZINC DIE CASTING, NICKEL PLATING
 - P.C.B.: 6 LAYERS, FR4, 30 μ m. GOLD PLATING ON FINGERS
 - LATCH: STAINLESS STEEL
 - PULL TAB: NYLON UL94V-0; COLOR: BLACK

Figure 2: Mechanical Dimensions of Module

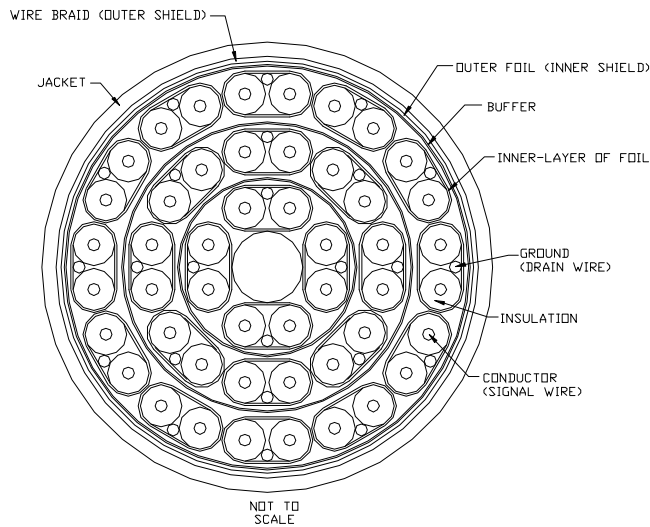


Figure 3: Cable Cross Section

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Bottom side			Top Side		
I/O #	Name	Contact Length	Contact Length	Name	I/O #
Receiver – Top Card					
C1	GND			GND	D1
C2	Rx1p			Rx0p	D2
C3	Rx1n			Rx0n	D3
C4	GND			GND	D4
C5	Rx3p			Rx2p	D5
C6	Rx3n			Rx2n	D6
C7	GND			GND	D7
C8	Rx5p			Rx4p	D8
C9	Rx5n			Rx4n	D9
C10	GND			GND	D10
C11	Rx7p			Rx6p	D11
C12	Rx7n			Rx6n	D12
C13	GND			GND	D13
C14	Rx9p			Rx8p	D14
C15	Rx9n			Rx8n	D15
C16	GND			GND	D16
C17	Rx11p			Rx10p	D17
C18	Rx11n			Rx10n	D18
C19	GND			GND	D19
C20	PRSNT_L			Vcc3.3-Rx	D20
C21	Int_L/Reset_L			Vcc12-Rx	D21
Transmitter – Bottom Card					
A1	GND			GND	B1
A2	Tx1p			Tx0p	B2
A3	Tx1n			Tx0n	B3
A4	GND			GND	B4
A5	Tx3p			Tx2p	B5
A6	Tx3n			Tx2n	B6
A7	GND			GND	B7
A8	Tx5p			Tx4p	B8
A9	Tx5n			Tx4n	B9
A10	GND			GND	B10
A11	Tx7p			Tx6p	B11
A12	Tx7n			Tx6n	B12
A13	GND			GND	B13
A14	Tx9p			Tx8p	B14
A15	Tx9n			Tx8n	B15
A16	GND			GND	B16
A17	Tx11p			Tx10p	B17
A18	Tx11n			Tx10n	B18
A19	GND			GND	B19
A20	SCL			Vcc3.3-Tx	B20
A21	SDA			Vcc12-Tx	B21

Figure 4: Contact Assignments for CXP Interface



Pin	Logic	Symbol	Name/Description	Plug sequence
A1		GND	Module Ground	1
A2	I	Tx1p	Transmitter Non-Inverted Data Input	3
A3	I	Tx1n	Transmitter Inverted Data Input	3
A4		GND	Module Ground	1
A5	I	Tx3p	Transmitter Non-Inverted Data Input	3
A6	I	Tx3n	Transmitter Inverted Data Input	3
A7		GND	Module Ground	1
A8	I	Tx5p	Transmitter Non-Inverted Data Input	3
A9	I	Tx5n	Transmitter Inverted Data Input	3
A10		GND	Module Ground	1
A11	I	Tx7p	Transmitter Non-Inverted Data Input	3
A12	I	Tx7n	Transmitter Inverted Data Input	3
A13		GND	Module Ground	1
A14	I	Tx9p	Transmitter Non-Inverted Data Input	3
A15	I	Tx9n	Transmitter Inverted Data Input	3
A16		GND	Module Ground	1
A17	I	Tx11p	Transmitter Non-Inverted Data Input	3
A18	I	Tx11n	Transmitter Inverted Data Input	3
A19		GND	Module Ground	1
A20	LVC MOS-I	SCL	2-wire serial interface clock	3
A21	LVC MOS-I/O	SDA	2-wire serial interface data	3
B1		GND	Module Ground	1
B2	I	Tx0p	Transmitter Non-Inverted Data Input	3
B3	I	Tx0n	Transmitter Inverted Data Input	3
B4		GND	Module Ground	1
B5	I	Tx2p	Transmitter Non-Inverted Data Input	3
B6	I	Tx2n	Transmitter Inverted Data Input	3
B7		GND	Module Ground	1
B8	I	Tx4p	Transmitter Non-Inverted Data Input	3
B9	I	Tx4n	Transmitter Inverted Data Input	3
B10		GND	Module Ground	1
B11	I	Tx6p	Transmitter Non-Inverted Data Input	3
B12	I	Tx6n	Transmitter Inverted Data Input	3
B13		GND	Module Ground	1
B14	I	Tx8p	Transmitter Non-Inverted Data Input	3
B15	I	Tx8n	Transmitter Inverted Data Input	3
B16		GND	Module Ground	1
B17	I	Tx10p	Transmitter Non-Inverted Data Input	3
B18	I	Tx10n	Transmitter Inverted Data Input	3
B19		GND	Module Ground	1
B20		Vcc3.3-Tx	3.3V Power Supply Transmitter	2
B21		Vcc12-Tx	12V Power Supply Transmitter	2

Table 1: CXP Module Electrical Pin Definition
(continued on next page)

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Pin	Logic	Symbol	Name/Description	Plug sequence
C1		GND	Module Ground	1
C2	O	Rx1p	Receiver Non-Inverted Data Output	3
C3	O	Rx1n	Receiver Inverted Data Output	3
C4		GND	Module Ground	1
C5	O	Rx3p	Receiver Non-Inverted Data Output	3
C6	O	Rx3n	Receiver Inverted Data Output	3
C7		GND	Module Ground	1
C8	O	Rx5p	Receiver Non-Inverted Data Output	3
C9	O	Rx5n	Receiver Inverted Data Output	3
C10		GND	Module Ground	1
C11	O	Rx7p	Receiver Non-Inverted Data Output	3
C12	O	Rx7n	Receiver Inverted Data Output	3
C13		GND	Module Ground	1
C14	O	Rx9p	Receiver Non-Inverted Data Output	3
C15	O	Rx9n	Receiver Inverted Data Output	3
C16		GND	Module Ground	1
C17	O	Rx11p	Receiver Non-Inverted Data Output	3
C18	O	Rx11n	Receiver Inverted Data Output	3
C19		GND	Module Ground	1
C20	O	PRSNT-L	Module Present	3
C21	I/O	Int_L/Reset_L	Interrupt/Reset	3
D1		GND	Module Ground	1
D2	O	Rx0p	Receiver Non-Inverted Data Output	3
D3	O	Rx0n	Receiver Inverted Data Output	3
D4		GND	Module Ground	1
D5	O	Rx2p	Receiver Non-Inverted Data Output	3
D6	O	Rx2n	Receiver Inverted Data Output	3
D7		GND	Module Ground	1
D8	O	Rx4p	Receiver Non-Inverted Data Output	3
D9	O	Rx4n	Receiver Inverted Data Output	3
D10		GND	Module Ground	1
D11	O	Rx6p	Receiver Non-Inverted Data Output	3
D12	O	Rx6n	Receiver Inverted Data Output	3
D13		GND	Module Ground	1
D14	O	Rx8p	Receiver Non-Inverted Data Output	3
D15	O	Rx8n	Receiver Inverted Data Output	3
D16		GND	Module Ground	1
D17	O	Rx10p	Receiver Non-Inverted Data Output	3
D18	O	Rx10n	Receiver Inverted Data Output	3
D19		GND	Module Ground	1
D20		Vcc3.3-Rx	3.3V Power Supply Receiver	2
D21		Vcc12-Rx	12V Power Supply Receiver	2

Table 1: CXP Module Electrical Pin Definition

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Data Address	Field Size	Field Name	Field Description	Field Value	Value Description
Upper Page 00h (1010 000x)					
128	1	Reserved – Type Identifier	Reserved for SFF-style Type Identifier code for CXP - probably either 0Eh or 0Fh, TBD	00	
129	1	Power Class	Power Class, Tx, and Rx CDR Presence	00	
130-144	15	Device Description	Cable & Connector, Power supplies, Max Case Temp, Min/Max Signal Rate, Laser wavelength or copper attenuation, and supported functions	30,88,46,19,6E,00,00,00,00,00,00,00,00,00,00	
145	1	Rx Control		00	
146	1	Control	FEC, PEC, JTAG, AC-JTAG, BIST, TEC, Sleep, CDR	00	
147	1	Device Technology	Device Technology	A0	
148	1	Max Power Utilization	Maximum power utilization	00	
149	1	12x to 3-4x	Coded 1 for 12x to 3-4x Cable, else, for regular cable without fanout, coded 0	00	
150-151	2	Reserved	Reserved	00,00	
152-167	16	Vendor Name	Vendor name in ASCII	4D,65,74,68,6F,64,65,20,45,6C,65,63,2E,20,20,20	Methode Elec. (ASCII)
168-170	3	Vendor OUI	Vendor OUI (IEEE ID): Organization-Unique Identifier	00,17,05	Methode OUI
171-186	16	Vendor Part Number	Vendor Part Number in ASCII	44,4D,2D,33,33,38,2D,30,20,20,20,20,20,20,20,20	DM-338-GG--XXXX (ASCII)
187-188	2	Vendor Revision Number	Vendor Revision Number in ASCII	2D,20	Rev -
189-204	16	Vendor Serial Number	Vendor Serial Number (ASCII): Varies by unit	VARIABLES	(ASCII)
205-212	8	Vendor Date Code	Vendor Date Code YYYYMMDD (ASCII): Spaces (20h) for unused characters	VARIABLES	YYYYMMDD (ASCII)
213-222	10	Lot Code	Customer-Specific Code or Vendor-Specific lot code (ASCII). 10B. All spaces (20h) if unused	VARIABLES	
223	1	Checksum	Checksum of addresses 128 through 222 inclusive: 8 low-order bits of sum	VARIABLES	
224-255	32	Vendor Specific	Vendor Specific Read-Only Registers	All 00's	

Table 2: CXP MSA Serial ID Data

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