

QSFP passive 4x10G Twinaxial Direct Attach Cable



Description

The BlueLAN® SC253501KXMXX QSFP Direct Attach Cable is a low-power, low-cost and low-latency solution for short interconnections between devices in data centers. Choose the most popular connection for 4x10G QSFP data links with up to 5 Meter length.

BlueLAN® QSFP Direct Attach Cables deliver the most flexible and scalable solution for today's demands in data center environments.

BlueLAN® QSFP Direct Attach Cables are 100% compliant with QSFP Multi-Source Agreement (MSA).

Applications

- ✓ 40GBase-CR4
- ✓ Ethernet / Fiber Channel
- ✓ Infiniband
- ✓ Switch to Switch Interface
- ✓ Router/Server Interface
- ✓ Other links

Features

- ✓ 40Gb/s serial optical interface
- ✓ Go Green and reduce OPEX:
Maximum 1 mW power consumption
- ✓ Hot-pluggable QSFP footprint compliant to SFF-8436
- ✓ 100 Ohm differential impedance
- ✓ Available in following length (Meter):
1, 3, 5
- ✓ AC coupled input and outputs
- ✓ Custom EEPROM signature
- ✓ Nickel plated zinc diecast enclosure, for lower EMI
- ✓ RoHS compliant and lead-free
- ✓ Single +3.3V power supply
- ✓ Case operating temperature
Commercial: 0°C to +70°C
Industrial: -40°C to +85°C

Warnings

Handling Precautions: This device is susceptible to damage as a result of electrostatic discharge (ESD). A static free environment is highly recommended.

Warranty

Every BlueLAN© Direct Attach Cable comes with a 5 year replacement warranty and lifetime support.

For a warranty inquiry, please contact your CBO sales representative.

This warranty only covers the first user of the equipment.

Important Notice

Performance figures, data and any illustrative material provided in this data sheet are typical and must be specifically confirmed in writing by CBO before they become applicable to any particular order or contract. In accordance with the CBO policy of continuous improvement specifications may change without notice.

The publication of information in this data sheet does not imply freedom from patent or other protective rights of CBO or others.

Further details are available from any CBO sales representative.

Installation

Before installation attach an ESD-preventive wrist to ensure not to damage the Direct Attach Cable or hardware.

BlueLAN© SC253501KXMX can be installed in any Small Form Factor Pluggable (QSFP) port. You can install the SC253501KXMX regardless if the system is powered on or off, because it is hot-swappable.

Insert each connector of the Direct Attach Cable into the QSFP port of your devices.

You can now use your link.

Order Information

Part No.	Length	Temperature	AWG
SC253501K1M30	1 Meter	0°C – 70°C	30
SC253501K3M30	3 Meter	0°C – 70°C	30
SC253501K1M28	1 Meter	0°C – 70°C	28
SC253501K3M28	3 Meter	0°C – 70°C	28
SC253501K5M28	5 Meter	0°C – 70°C	28
SC253501K1M24	1 Meter	0°C – 70°C	24
SC253501K3M24	3 Meter	0°C – 70°C	24
SC253501K5M24	5 Meter	0°C – 70°C	24
SC253501K1M30IN	1 Meter	-40°C – 85°C	30
SC253501K3M30IN	3 Meter	-40°C – 85°C	30
SC253501K1M28IN	1 Meter	-40°C – 85°C	28
SC253501K3M28IN	3 Meter	-40°C – 85°C	28
SC253501K5M28IN	5 Meter	-40°C – 85°C	28
SC253501K1M24IN	1 Meter	-40°C – 85°C	24
SC253501K3M24IN	3 Meter	-40°C – 85°C	24
SC253501K5M24IN	5 Meter	-40°C – 85°C	24

Regulatory Compliance

Feature	Standard	Co.
Electrostatic Discharge (ESD)	- IEC/EN 61000-4- 2	✓
Electromagnetic Interference (EMI)	- FCC Part 15 Class B EN 55022 - Class B (CISPR 22A)	✓
Component Recognition	- IEC/EN 60950, UL	✓
RoHS	- 2002/95/EC	✓
EMC	- EN61000-3	✓

1. General Information

Parameter	Value
Min. Dielectric Withstand Voltage	300 VDC
Insulation Resistance	100 Mega Ohm
Mega Ohm Current Rating	0.5 Amp Min/Signal Contact
Flammability Rating	UL 94 V-0
Shield	Braid/Foil

2. Raw Cable Characteristics

Parameter	Value
Conductor	Solid
Wire Gauge	30 AWG to 24 AWG
Impedance	100 ±5 Ohm
Construction	Twinaxial
Cable Diameter	30 AWG = 4.2mm 28 AWG = 4.7mm 24 AWG = 6.2mm
Jacket Type	PVC
Bend Radius	5X Cable Diameter

3. Plug Characteristics

Parameter	Value
Back shell Material	Nickel Plated Zinc Diecast
Contact	PCB with Gold-Plated Pads
Latch	Positive latching with pull
	SFP+ 40N maximum
	QSFP 40N maximum
	SFP+ 11.5N maximum
	QSFP 30N maximum
Retention Force	90N maximum
	SFP+ 50 Cycles minimum
	QSFP 250 Cycles minimum

4. Electrical Interface Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Power Supply Voltage	Vcc	3.15	3.3	3.46	V	
Power Supply Current	Icc			0.1	mA	
Power Total				1	mW	
Clock frequency	Fscl			400	kHz	
Data Rate per Channel (4x)		0.010		10.3125(QDR)	Gbps	
Bit Error Rate				10 ⁻¹²		

5. EEPROM Information SFP+

The SFP MSA defines a 256-byte memory map in EEPROM describing the transceivers capabilities, standard interfaces, manufacturer, and other information, which is accessible over a 2 wire serial interface at the 8-bit address 1010000X (A0h).

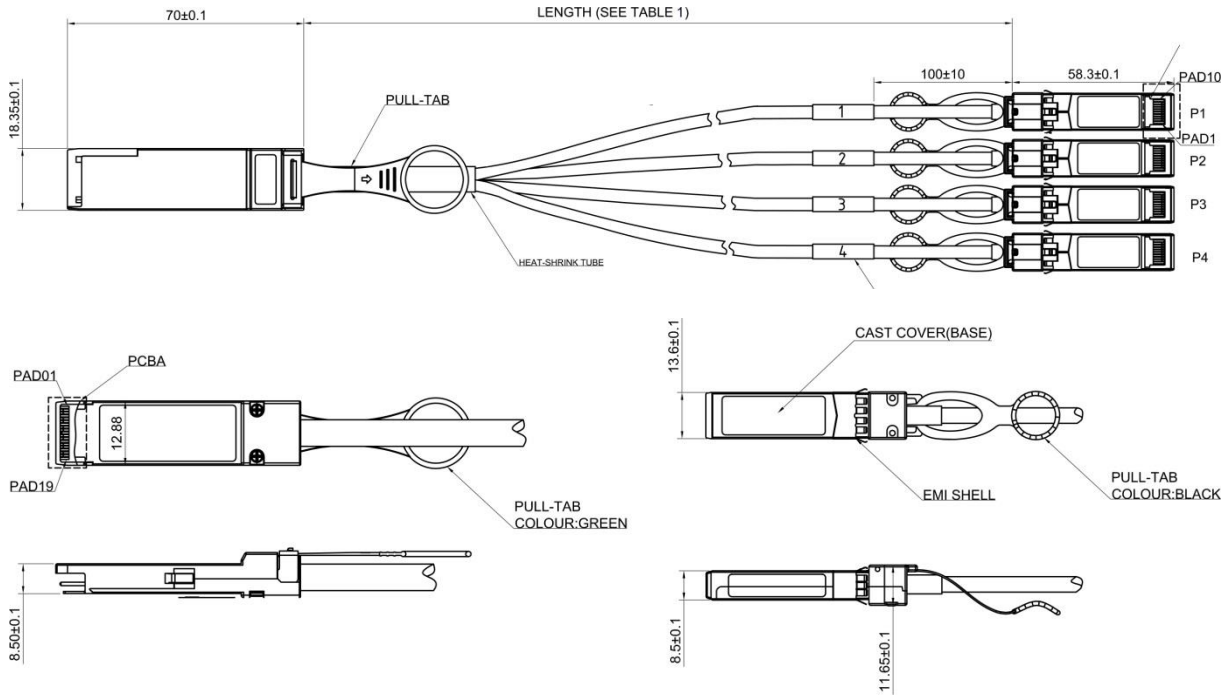
Data Address	Field Size (Bytes)	Name of Field	Contents (Hex)	Description
0	1	Identifier	XX	Formfactor
1	1	Ext. Identifier	XX	
2	1	Connector	XX	
3-10	8	Transceiver	XX XX XX XX XX XX XX XX	Transmittter Code
11	1	Encoding	XX	
12	1	BR, Nominal	XX	Transceiver Speed
13	1	Reserved	00	
14	1	Length (9μm) km	XX	Max. link length in KM
15	1	Length (9μm) 100m	XX	Max. link length in M
16	1	Length (50μm) 10m	XX	Max. link length in M
17	1	Length(62.5μm)10m	XX	Max. link length in M
18	1	Length (Copper)	XX	Max. link length in M
29	1	Reserved	00	
30-35	16	Vendor name	XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX	Vendor name - OEM
36	1	Reserved	00	
37-39	3	Vendor OUI	XX XX XX	
40-55	16	Vendor PN	XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX	Product Number - depending on Part
56-59	4	Vendor rev	XX XX XX XX	Vendor revision
60-61	2	Wavelength	XX XX	Transceiver Wavelength
62	1	Reserved	00	
63	1	CC BASE	XX	Checksum of bytes 0-62
64-65	2	Options	XX XX	
66	1	BR, max	XX	
67	1	BR, min	XX	
68-83	16	Vendor SN	XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX	Part serial number
84-91	8	Vendor date code	XX XX XX XX XX XX 20 20	Year, Month, Day
92	1	Diagnostic type	XX	Diagnostics
93	1	Enhanced option	XX	Diagnostics
94	1	SFF-8472	XX	Diagnostics
95	1	CC_EXT	XX	Checksum of bytes 64-94
96-255	160	Vendor Specific		

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Data Address	Field Size (Bytes)	Name of Field	Description
128	1	Identifier	Formfactor
129	1	Ext. Identifier	
130	1	Connector	
131-138	8	Transceiver	Transmitter Code
139	1	Encoding	
140	1	BR, Nominal	Transceiver Speed
141	1	Extended RateSelect Compliance	Tags for Extended RateSelect compliance
142	1	Length (9µm) km	Max. link length in KM
143	1	Length (9µm) 100m	Max. link length in M
144	1	Length (50µm) 10m	Max. link length in M
145	1	Length(62.5µm)10m	Max. link length in M
146	1	Length (Copper)	Max. link length in M
147	1	Device Tech	Device technology
148-163	16	Vendor name	Vendor name - OEM
164	1	Extended Transceiver	Extended Transceiver Codes for InfiniBand
165-167	3	Vendor OUI	
168-183	16	Vendor PN	Product Number - depending on Part
184-185	2	Vendor rev	Vendor revision
186-187	2	Wavelength	Transceiver Wavelength
188-189	2	Wavelength tolerance	Guaranteed range of laser wavelength (+/- value) from Nominal wavelength (Wavelength Tol. = value/200 in nm)
190	1	Max Case Temp	Maximum Case Temperature in Degrees C
191	1	CC_BASE	Check code for Base ID Fields (addresses 128-190)
192-195	4	Options	Rate Select, TX Disable, TX Fault, LOS
196-211	16	Vendor SN	Part serial number
212-219	8	Vendor date code	Year, Month, Day
220	1	Diagnostic type	Diagnostics
221	1	Enhanced option	Indicates which optional enhanced features are implemented in the transceiver.
222	1	Reserved	Reserved
223	1	CC_EXT	Check code for the Extended ID Fields (addresses 192-222)
224-255	32	Vendor Specific	Vendor Specific EEPROM

7. Mechanical Specifications (Unit: mm)



Bend Radi						
AWG	Diameter		Bend Radius min. (mm)		Bend Space min. (mm)	
	SFP+	QSFP	SFP+	QSFP	SFP+	QSFP
30	4.4	10.3	22.0	56.5	55.0	113.0
28	4.7	10.6	23.5	53.0	48.6	106.0
24	6.0	11.3	30	51.5	46.2	103.0

