Dolphin MSPA4M Armored Fiber Pigtail Cable Data Sheet

PCIe 4.0 x4 SFF-8644 Armored Optical Pigtail, Male MPO

The MSPA4M is an SFF-8644 Optical PCIe 4.0 transceiver that terminates in a male MPO connector. Using two MSPA4M / MSP4M pigtails and an MTFC4FF or MTFAC4FF patch cable with MTPC bulkhead adapters, you can extend PCIe 4.0 connectivity up to 100 meters.

Features

- Conforms to the SFF-8644 mechanical dimensioning requirements
- Compliant with SFF-8636 Management interface
- Compatible with PCIe 4.0 x4
- Male MPO connector
- 12 -Strand fiber
- 1 EEPROM
- RoHS 2.0 compliant

Part Numbers

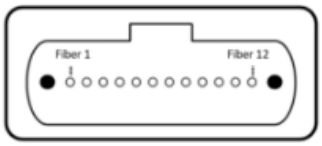
Part	Length	Fiber Type
MSPA4M-1M	1 Meter	OM3/LSZH

Note: Custom lengths available.

Pinout

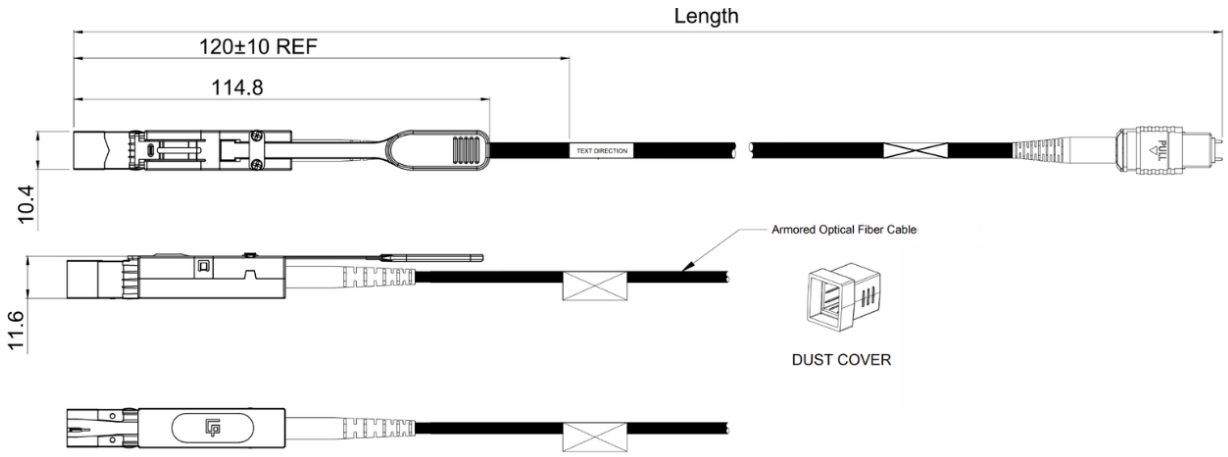
External PCIe x4 Cable Pin-out									
Row	9	8	7	6	5	4	3	2	1
D	GND	PETn2	PETp2	GND	PETn1	PETp1	GND	MGTPWR	PWR
C	GND	PETn3	PETp3	GND	PETn0	PETp0	GND	CMISDA	CMISCL
B	GND	PERn2	PERp2	GND	PERn1	PERp1	GND	CBLPRSNT#	PWR
A	GND	PERn3	PERp3	GND	PERn0	PERp0	GND	CINT#	CADDR

Optical Connector Lane Assignments



PCIe Signal	Fiber#	PCIe Signal	Fiber#
PET0	1	Not used	7
PET1	2	Not Used	8
PET2	3	PER3	9
PET3	4	PER2	10
Not Used	5	PER 1	11
Not Used	6	PER0	12

Drawing



Technical Specification

Features	MSPA4M	MSP4M	Unit
Fiber Type	Armored / OM3	Non-Armored / OM3	-
Fiber Color	Black	Aqua	-
Cable Diameter	3.2 +/- 0.2	3.0 +/- 0.1	mm
Cable Tensile Force	Long-Term: 80 Short-Term: 150	Long-Term: 80 Short-Term: 150	N
Cable Crush Resistance	Long-Term: 1000 Short-Term: 3000	Long-Term: 100 Short-Term: 500	N/100mm
Min. Bending Radius	Static: 32 Dynamic: 64	Static: 30 Dynamic: 60	mm
Operating Temperature	-40°C~+75°C	-40°C~+75°C	°C
Storage Temperature	-40°C~+85°C	-40°C~+85°C	°C
RoHS 2.0 Compliant	Yes	Yes	-

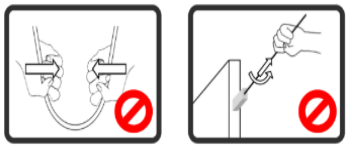
Operation Condition				
Parameter	**Min**	**Typical**	**Max**	**Unit**
Case Operating Temperature	0	40	70	℃
Power Supply Voltage	3.135	3.300	3.465	V
Power Consumption	1.00	1.3	1.50	W
Power Supply Current	0.382	0.393	0.454	A
Date Rate per Channel	1.0	16	16	Gbps
BER per Channel		1E-12		
Electrical Characteristics				
Input Signal				
Maximum Input Voltage			1.3	V
Eye Height	34.0			mV
Eye Width	41.2			ps
Output Signal				
Maximum Output Voltage			1.3	V
Eye Heigh	34.0			mV
Eye Width	41.2			ps
Optical Characteristics				
Optical Power, DC	-6.0		2.0	dBm
Storage Conditions				
Relative Humidity (Non-Condensing)	5		85	%

MPO Connector Cleaning

Always use Dolphin's MPCLEAN MPO cleaning kit or an alternative MPO cleaning solution to clean the MPO connectors before mating the MPO connectors. Dust and grease on the fiber head may significantly reduce performance, and larger particles can cause scratches that permanently damage the MPO surfaces.

Handling

Care should be taken to restrict exposure to the conditions defined in the Maximum Ratings above. Place the product on a stable, level surface. If the product falls or drops, it may cause an injury or malfunction. The cable must not be subjected to excessive bending during installation or in operation. If you bend the cable to a radius smaller than its minimum bend radius, it may be damaged. Don't twist or pull the cable ends by force, as this may cause a malfunction.



Laser Safety Warning

This equipment incorporates a Class 3R laser device in accordance with IEC 60825-1. Laser radiation may be present when the product is opened, and safety interlocks are defeated. Direct exposure to the laser beam may be hazardous to eyesight.

Regulatory Marking

The product holds the following regulatory marking: