

# Dolphin MSF4C-XM Optical Cable Data Sheet

## PCIe Gen4 x4 SFF-8644 Active Optical Cable

Dolphin provides a SFF-8644 Optical cable for PCIe over fiber. The Dolphin cables are fiber optic cables that enable connecting systems and I/O subsystems up to 100m. The cable ends use the SFF8644 connector that support Dolphin SFF-8644 boards and switches.



### Features

- Cable lengths up to 100M
- Conforms to the mechanical dimensioning requirements of SFF-8644
- Compliant to SFF-8636 Management Interface
- x4 PCIe Gen 4 support
- 12 Stand Fiber
- Minimum Bending Radius is 30mm
- 2 EEPROMs
- RoHS II compliant

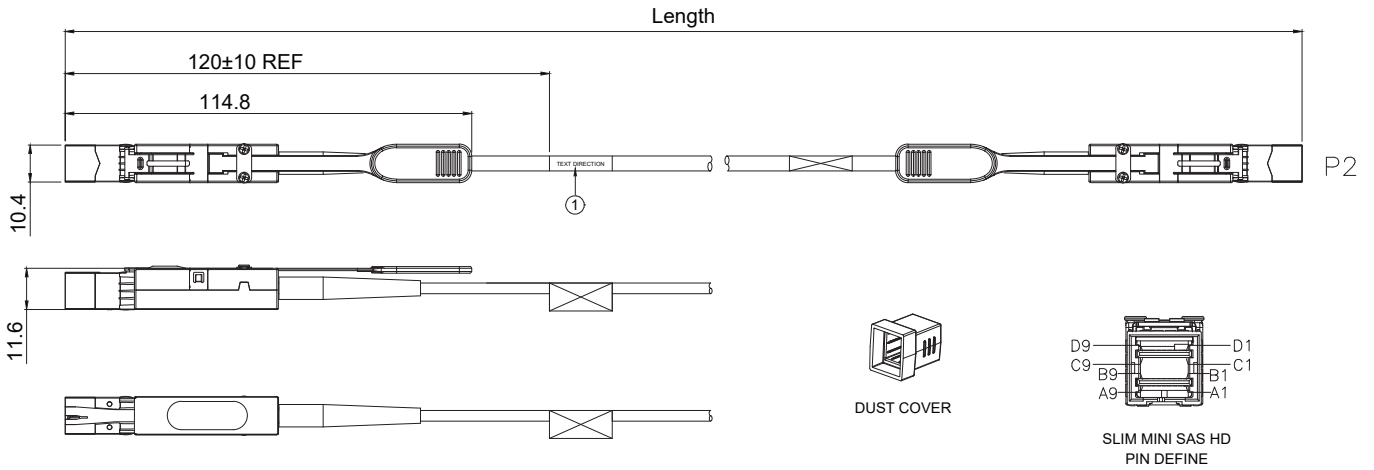
### Part Numbers

Part	Description
MSF4C-1M	1 Meter Fiber Cable
MSF4C-10M	10 Meter Fiber Cable
MSF4C-50M	50 Meter Fiber Cable
MSF4C-100M	100 Meter Fiber Cable

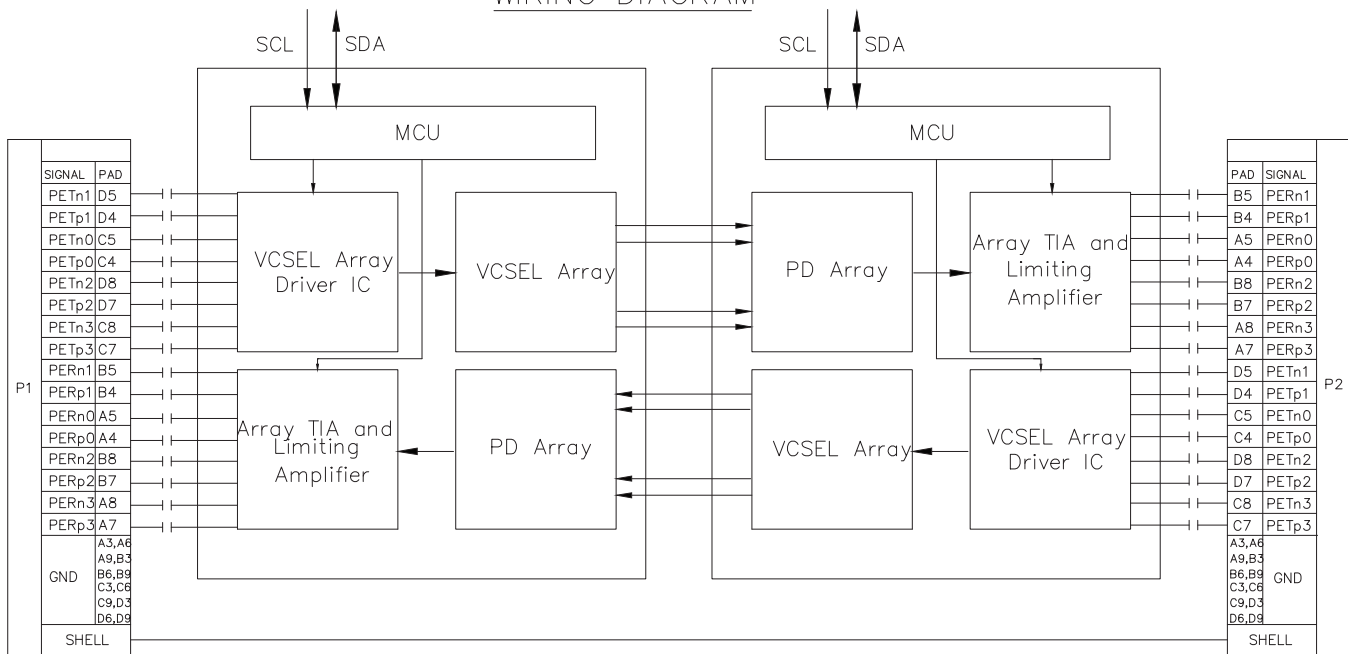
### Pin-Out

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





WIRING DIAGRAM



LOW SPEED SIGNALS	
PAD for P1 & P2	
A1	CADDR
A2	CINT#
B1	PWR
B2	CBLPRSNT#
C1	CMISCL
C2	CMISDA
D1	PWR
D2	MGTPWR



## Storage Conditions

Parameter	Min	Max	Unit	Note
Storage Temperature	-10	70	°C	1
Relative Humidity	5	85	%	2

Notes:

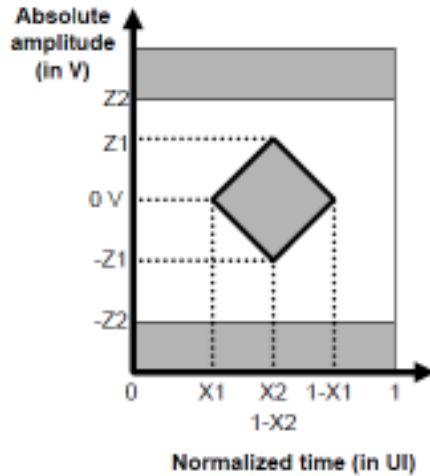
1. Limited by the fiber cable jacket, not the active ends.
2. Non-condensing

## Operating Conditions

Parameter	Min	Typical	Max	Unit	Note
Case Operating Temperature	0	40	70	°C	
Power Supply Voltage	3.135	3.3	3.465	V	
Power Consumption (each end)	1.00	1.30	1.50	W	
Power Supply Current (each end)	0.382	0.393	0.454	A	
Data Rate per Channel	1.0	16	16	Gbps	
BER per Channel		1E-12			
Test Pattern		PRBS31			

## Electrical Characteristics

Parameter	Min	Typical	Max	Unit	Note
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 Height	34.0			mV	
Eye Width	41.2			ps	

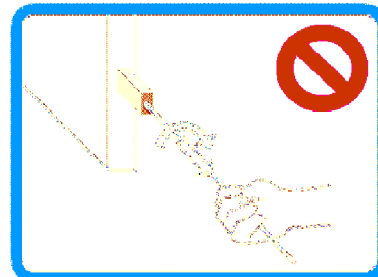
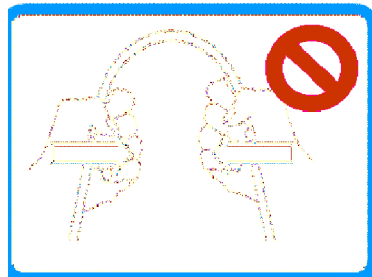


Parameter	Specification	Notes
Minimum Cable Bending Radius	30mm	
Cable Cross-Section Dimension	Round Type Cable with 3mm in Dia.	
Cable Cover Type	OFNP / LSZH	
Standard Cable Length	1, 10, 50,100-m	other lengths available
Cable Length Tolerance	+1.0 / -0 m	
Mating Force	Max 100N	EIA 364-13
Un-mating Force	Max 50 N	EIA 364-13
Vibration	No Damage No discontinuity longer than 1μsec allowed 20 mOhms maximum change from initial (baseline) contact resistance	EIA 364-28
Mechanical Shock	No Damage 20 mOhms maximum change from initial (baseline) contact resistance	EIA 364-27

## Handling

### HANDLING

Care should be taken to restrict exposure to the conditions defined in the Absolute Maximum Ratings. Put the product in an even and stable location. If the product falls down or drops, it may cause an injury or malfunction. The cable must not be subject to extreme bends during installation or while in operation. If you bend the cable at a radius less than the cable minimum bend radius, then the cable may get damaged. Don't twist or pull by force ends of the cable, which might cause malfunction.





NOTE

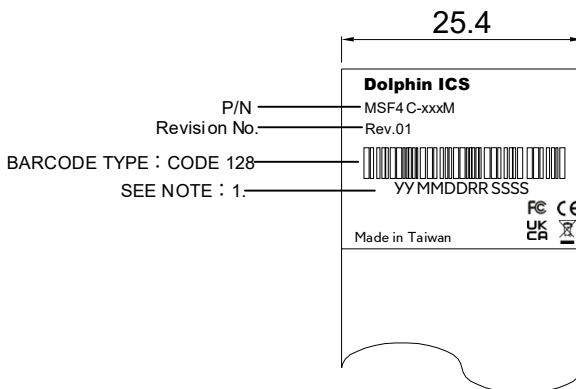
1. LABEL 1 INFO

- a BARCODE CONTENT YYMMDDRRSSSS  
 YY= THE LAST 2 DIGITAL OF YEAR  
 MM= MONTH OF THE YEAR  
 DD=DATE  
 RR=Revision  
 SSSS= SERIAL NO.

2. EACH CABLE HAS SERIAL ID (BOTH END)

3. MATERIALS:

- PLUG SHELL- ZINC DIECAST , NICKEL PLATING
- LATCH- STAINLESS STEEL
- PULL TAPE- NYLON PA66
- OPTICAL FIBER- OM3 MMF



EN 550032: 2015+ A11:2020, Class B	EC 61000-4-4: 2012
BS EN 55032: 2015+ A11: 2020	IEC 61000-4-5: 2014 +A1:2017
CISPR 32: 2015	IEC 61000-4-6: 2013
EN 61000-3-2:2014	IEC 61000-4-8: 2009
EN 61000-3-2:2013	IEC 61000-4-11: 2004+A1:2017
EN 55024:2020 + A1: 2015	47 CFR FCC Part 15, Subpart B, Class B
BS EN 55024:2020 + A1: 2015	ICES-003: 2020 Issue 7, Class B
IEC 61000-4-2: 2008	WEEE (2012/19/EU)
IEC 61000-4-3: 2006 +A1:2007 +A2:2010	Laser Safety IEC 60825-1