

## MFA2P10-A004-C

Mellanox® MFA2P10-A004 Compatible TAA Compliant 25GBase-AOC SFP28 to SFP28 Active Optical Cable (850nm, MMF, 4m)

### Features:

- Hot-pluggable SFP28 form factor
- Supports 25Gbps data rate
- 850nm VCSEL laser and PIN photo-detector
- Internal CDR on both Transmitter and receiver channel
- Single 3.3V power supply
- Power dissipation < 1W
- Digital diagnostics functions are available via the I2C interface
- Operating Case temperature: 0 to 70 Celsius
- RoHS Compliant and Lead-Free



### Applications:

- 25Gbase-SR Ethernet

### Product Description

This is a Mellanox® MFA2P10-A004 compatible 25GBase-AOC SFP28 to SFP28 active optical cable that operates over active fiber with a maximum reach of 4m. At a wavelength of 850nm, it has been programmed, uniquely serialized, and data-traffic and application tested to ensure it is 100% compliant and functional. This active optical cable is TAA (Trade Agreements Act) compliant, and is built to comply with MSA (Multi-Source Agreement) standards. We stand behind the quality of our products and proudly offer a limited lifetime warranty.

ProLabs' transceivers are RoHS compliant and lead-free.

TAA refers to the Trade Agreements Act (19 U.S.C. & 2501-2581), which is intended to foster fair and open international trade. TAA requires that the U.S. Government may acquire only "U.S.-made or designated country end products.")



## General Specifications

Parameter	Symbol	Min	Typ.	Max.	Unit
Storage Temperature		-40		85	°C
Operating Case Temperature	T <sub>c</sub>	0		70	°C
Power Supply Voltage	V <sub>cc</sub>	3.13	3.3	3.47	V
Supply Voltage	V <sub>cc</sub>	0		3.6	V
Storage Temperature	T <sub>stg</sub>	-40		85	°C
Operating Humidity		5		85	%

## Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
<b>Transmitter</b>						
Data Rate	BR		25.78		Gbps	
Centre Wavelength	λ <sub>c</sub>	840	850	860	nm	
Spectral Width (-20dB)	σ			0.6	nm	
Average Output Power	P <sub>avg</sub>	-8.4		2.4	dBm	
Optical Power OMA	P <sub>OMA</sub>	-6.4		3	dBm	
Extinction Ratio	ER	2			dB	
Differential data input swing	V <sub>IN,PP</sub>	40		1000	mV	
Input Differential Impedance	Z <sub>IN</sub>	90	100	110	Ω	
TX Disable	Disable		2.0		V <sub>cc</sub>	V
	Enable		0		0.8	V
TX Fault	Fault		2.0		V <sub>cc</sub>	V
	Normal		0		0.8	V
<b>Receiver</b>						
Data Rate	BR		25.78		Gbps	
Centre Wavelength	λ <sub>c</sub>	840	850	860	nm	
Receiver Sensitivity (OMA)	P <sub>sens</sub>			-10	dBm	
Stressed Sensitivity (OMA)				-5.2	dBm	
Receiver Power (OMA)				3	dBm	
LOS De-Assert	LOS <sub>D</sub>			-13	dBm	
LOS Assert	LOS <sub>A</sub>	-30			dBm	
LOS Hysteresis		0.5			dB	
Differential data output swing	V <sub>out,PP</sub>	500		1130	mV	
LOS	High		2.0		V <sub>cc</sub>	V
	Low			0.8	V	V

## Pin Descriptions

Pin	Logic	Symbol	Name/Description	Notes
1		VeeT	Transmitter Ground.	
2	LV-TTL-O	TX_Fault	N/A	1
3	LV-TTL-I	TX_DIS	Transmitter Disable.	
4	LV-TTL-I/O	SDA	2-Wire Serial Data.	
5	LV-TTL-I	SCL	2-Wire Serial Clock.	
6		MOD_DEF0	Module present, connect to VeeT.	
7	LV-TTL-I	RS0	N/A	1
8	LV-TTL-O	LOS	LOS of Signal.	
9	LV-TTL-I	RS1	N/A	1
10		VeeR	Receiver Ground.	
11		VeeR	Receiver Ground.	
12	CML-O	RD-	Receiver Data Inverted.	
13	CML-O	RD+	Receiver Data Non-inverted.	
14		VeeR	Receiver Ground.	
15		VccR	Receiver Supply +3.3V.	
16		VccT	Transmitter Supply +3.3V.	
17		VeeT	Transmitter Ground.	
18	CML-I	TD+	Transmitter Data Non-Inverted.	
19	CML_I	TD-	Transmitter Data Inverted.	
20		VeeT	Transmitter Ground.	

### Note:

1. Signals not supported in SFP28 Copper pulled-down to VeeT with 30kΩ resistor.

# Host Board



# Mechanical Specification



## About ProLabs

Our extensive experience comes as standard. For over 20 years ProLabs has delivered optical connectivity solutions that give our customers freedom and choice through our ability to provide seamless interoperability. At the heart of our company is the ability to provide state-of-the-art optical transport and connectivity solutions that are compatible with more than 100 optical switching and transport platforms.

## A Complete Portfolio of Network Solutions

ProLabs is focused on innovations in optical transport and connectivity. The combination of our knowledge of optics and networking equipment enables ProLabs to be your single source for optical transport and connectivity solutions from 100Mb to 1.6T while providing innovative solutions that increase network efficiency. We provide the optical connectivity expertise that is compatible with and enhances your switching and transport equipment.

## The Trusted Partner

Customer service is our number one value. ProLabs has invested in people, labs and manufacturing capacity to ensure compatible products, and immediate answers to your questions. With Engineering and Manufacturing offices in the U.K. and U.S. augmented by field offices throughout the U.S., U.K. and Asia, ProLabs is able to be our customers best advocate 24 hours a day.



## Contact Information

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