

APTICOM | ASY-708XX

SFP28 to SFP28 25G 850nm 0-70°C Cables - AOC and DAC

Features

- Management Interface Specifications per SFF-8431 and SFF-8472
- Supports 25.78125Gbps Data Rate
- 25GBASE-SR Compliant
- VCSEL Transmitter
- PIN Receiver
- Lengths up to 100m
- Operating Temperature 0 to 70°C
- Power Dissipation $\leq 1W$
- Single 3.3V Power Supply

Applications

- 25 Gigabit Ethernet

Description

The ASY-708xx series are high-performance Active Optical Cables (AOC) for 25 Gigabit Ethernet connections. It is compliant with the SFP28 Multisource Agreement (MSA) and hot pluggable.

The AOC is RoHS-6 compliant per Directive 2011/65/EU.

CAUTION! The AOC is a static-sensitive device. Always use an ESD wrist strap or similar individual grounding device when handling transceiver modules or coming into contact with modules.

Order Information

Part Number	Wavelength	Protocol	Tx Output Power	Rx Sensitivity	Reach	Temp.
ASY-708xx	850nm	25GBASE	N/A	N/A	$\leq 100m$	0-70°C

Ordering Guide

Part Number	Cable Length [m]	Part Number	Cable Length [m]
ASY-70818	1	ASY-70825	15
ASY-70819	2	ASY-70826	20
ASY-70820	3	ASY-70827	25
ASY-70821	4	ASY-70828	30
ASY-70822	5	ASY-70829	50
ASY-70823	7	ASY-70830	100
ASY-70824	10		

Absolute Maximum Ratings

Stresses in excess of the absolute maximum ratings can cause permanent damage to the device. Exposure to absolute maximum ratings for extended periods can adversely affect device reliability.

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Parameter	Min	Typ	Max	Unit
Storage Temperature	-40		85	°C
Relative Humidity	5		95	%
Supply Voltage	0		3.6	V

Recommended Operating Conditions

Parameter	Min	Typ	Max	Unit
Operating Case Temperature	0		70	°C
Supply Voltage	3.135	3.3	3.465	V
Data Rate		25.78125		Gbps

Transceiver Electrical Parameters

EOL, over the full temperature range, $V_{cc} = 3.135$ to $3.465V$.

Parameter	Min	Typ	Max	Unit
Supply Current			290	mA
Power Dissipation			1	W
Transmitter				
Input Differential Impedance		100		Ω
Differential Data Input Swing	180		1200	mVpp
Receiver				
Output Differential Impedance		100		Ω
Differential Output Data Swing	300		850	mVpp
Data Output Rise/Fall Time (20/80%)		30		ps
General				
Pre-FEC Bit Error Ratio			5×10^{-5}	
Post-FEC Bit Error Ratio			10^{-12}	

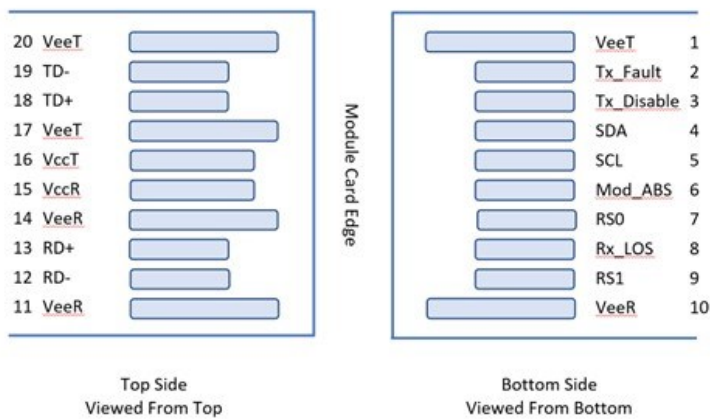
Transceiver Pins

Pin #	Name	Description	Pin #	Name	Description
1	VeeT	Module Transmitter Ground	11	VeeR	Module Receiver Ground
2	Tx_Fault	Module Transmitter Fault	12	RD-	Receiver Inverted Data Output
3	Tx_Disable	Transmitter Disable	13	RD+	Receiver Non-Inverted Data Output
4	SDA	2-wire Serial Interface Data Line	14	VeeR	Module Receiver Ground
5	SCL	2-wire Serial Interface Clock	15	VccR	Module Receiver 3.3 V Supply
6	Mod_ABS	Module Absent	16	VccT	Module Transmitter 3.3 V Supply
7	RS0	Not Used	17	VeeT	Module Transmitter Ground
8	Rx_LOS	Receiver Loss of Signal Indication [1]	18	TD+	Transmitter Non-Inverted Data Input
9	RS1	Not Used	19	TD-	Transmitter Inverted Data Input
10	VeeR	Module Receiver Ground	20	VeeT	Module Transmitter Ground

1. Open collector, to be pulled up with 4.7kohm

Transceiver Pad Layout

SFP+-compliant 20-pin connector as per SFF-8431.



Regulatory Compliance

The ASY-708xx series of AOC:s are Class 1 Laser Products and certified per the following standards:

Item	Agency	Standard
Laser Eye Safety	TÜV	EN 60825-1:2014 EN 60825-2:2004+A1+A2
Electrical Safety	TÜV	EN 60950-1:2006+A11+A1+A12+A2

Revision Information

Revision	Date	Description
A	2023-02-10	Initial release

For more information

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