

10G SFP+ Active Optical Cable (AOC) RTXM228-XXX



The Active Optical Cable (AOC) Assemblies for SFP+ Applications is a product to serve 10Gb Ethernet applications. It is designed to enable 10GbE equipment designs with very high port density based on the electrical and mechanical specification. The AOC can be used as an alternative solution to SFP+ passive and active copper cables, while providing improved signal integrity, longer distances, superior electromagnetic immunity and better bit error rate performance.

Features

- Fully RoHS Compliant
- 1 channel operating up to 10.5 Gbps
- Low power consumption
- Hot plugable 20pin connector
- cable length up to 100m
- 0°C to 70°C operating wide temperature range
- Single +3.3V±5% power supply
- Digital Monitoring feature
- Metal enclose for lower EMI

Applications

- 10G AOC SFP+ Applications

Standards

- SFF-8431 Rev 3
- SFF-8472 Rev 11

Specifications

Parameter	Symbol	Unit	Min	Typ	Max	Note
Channels		1 channel, bi-directional				
Protocols		InfiniBand, Ethernet, Fiber Channel				
Power Supply Voltage	V _{CC}	V		3.3		
Operating Case Temperature	T _C	°C	0		70	
Data rate		Gbps		10.3125		
Wavelength	λ	nm	840	850	860	
BER		bit		<10E-12		
Active cable input electrical characteristics						
Differential Data Input Voltage	V _{IH-VIL}	mVpp	200		800	1
Differential Input Impedance	R _{IN}	Ω		100		
TX-Disable Input Voltage-Low	V _{IL}	V	0		0.8	2
TX-Disable Input Voltage-High	V _{IH}	V	2.0		V _{CC}	2
TX-Fault Output Voltage-Low	V _{OL}	V	0		0.8	3
TX-Fault Output Voltage-High	V _{OH}	V	2.0		V _{CC}	3
Active cable output electrical characteristics						
Differential Data Output Voltage	V _{OH-VOL}	mV	300		800	1
Differential Output Impedance	R _{OUT}	Ω		100		
LOS-Asserted Output Voltage-Low	V _{OL}	V	0		0.8	3
LOS-Deasserted Output Voltage-High	V _{OH}	V	2.0		V _{CC}	3

Notes:

1. Internal AC coupled
2. TX-Disable has an internal 4.7KΩ to 10KΩ pull-up to V_{CC}T
3. Measure with 4.7KΩ pull-up to V_{CC} on host board

10G SFP+ Active Optical Cable (AOC) RTXM228-XXX

Ordering Information

Part No.	Specifications									Application
	Package	Data rate	Laser	Optical Power	Detector	Sensitivity (OMA)	Top	Reach (OM3)	Other	
RTXM228-XXX ¹	SFP+	Up to 10.5 Gb/s	850nm VCSEL	-	PIN	-	0~70 °C	1~100m	DDM	Ethernet, Fiber Channel, InfiniBand, Other Protocols and Proprietary Data rates as well

Note: 001 means 1m, 010 means 10m, 100 means 100m, etc.

Absolute Maximum Ratings

Parameter	Symbol	Unit	Min	Max
Storage Temperature Range	Ts	°C	-10	70
Relative Humidity	RH	%	20	80
Supply Voltage	V _{CC}	V	0	3.8

Recommended Operating Conditions

Parameter	Symbol	Unit	Min	Typ	Max
Operating Case Temperature Range	Tc	°C	0		70
Power Supply Voltage	V _{CC}	V	3.14	3.3	3.46
Bit Rate	BR	Gb/s		10.3125	10.5
Bit Error Ratio	BER				10 ⁻¹²