

**Features:**

- QSFP-DD MSA Compliant
- Compliant with IEEE 802.3cd and CEI-56-G-VSR-PAM
- Built in Analog CDR
- Low latency for high performance computing application
- Enabled by 850nm VCSEL
- Operating case temperature: 0 to 70°C
- Hot pluggable
- Power consumption 7.2W in 400G QSFP-DD
- Transmission distance up to 100m with OM3 MM fiber
- Laser Eye Safety Class 1



- Management interface based on CMIS 3.0 (QSFP-DD)
- RoHS compliant

**Applications:**

- 400G interconnection
- Data center

**1. General Description**

Approved Networks' 400G Active Optical Cables (AOCs) fill the need for short- range, cost-effective connectivity. In high-capacity interconnections, AOCs provide a power-efficient, easy-to-use replacement for optical transceivers and fiber jumper cables. These cables are fully compliant with EEPROM and memory map requirements to assure proper system identification and interoperability.

**2. Absolute Maximum Ratings**

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Storage Temperature	Ts	-40	-	85	°C	
Relative Humidity	RH	5	-	85	%	
Power Supply Voltage	VCC	-0.3	-	3.6	V	

### 3. Recommended Operating Conditions

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Case Operating Temperature	Tcase	0		70	°C	
Power Supply Voltage	VCC	3.14	3.3	3.47	V	
Data Rate	BR		53.125		Gbps	TX Rate/RX Rate per lane
Transmission Distance	TD			100	m	
Total power consumption			7.2		W	
Coupled fiber	Single mode fiber					OM3 fiber

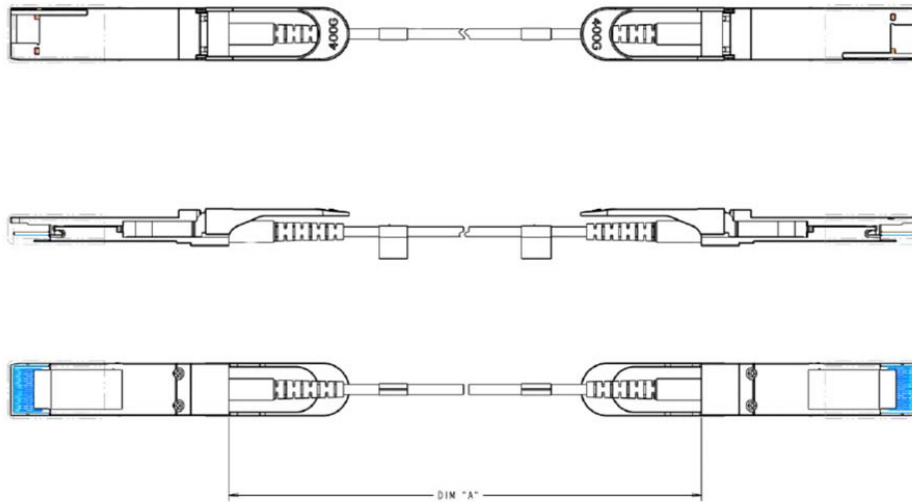
### 4. Electrical Interface Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
<b>Transmitter</b>						
Transmitter Fault Output-High	VFaultH	2	-	Vcc+0.3	V	
Transmitter Fault Output-Low	VFaultL	0	-	0.8	V	
Transmitter Disable Voltage- High	VDisH	2	-	Vcc+0.3	V	
Transmitter Disable Voltage- Low	VDisL	0	-	0.8	V	
Differential input impedance		90	100	110	Ohm	
DC common mode voltage		-350		2850	mV	
Differential eye height				900	mVdpp	
<b>Receiver</b>						
LOS Output Voltage-High	VLOSH	2	-	Vcc+0.3	V	
LOS Output Voltage-Low	VLOSL	0	-	0.8	V	
Differential output impedance		90	100	110	Ohm	
Differential eye height		228		900	mVdpp	
DC common mode voltage		-350		2850	mV	
AC common mode noise				17.5	mVrms	
Eye height @ 1e-5 (all PAM4 eyes)		70			mV	
Eye width @ 1e-5 (all PAM4 eyes)		0.265			UI	

### 5. Cable Specifications

Parameter	Value	Note
Type	OM3 MM Loose tube fiber	
Minimum bending radius (mm)	30	
Cable outer diameter (mm)	3.8 +/- 0.15 (16core)	
Cable length (m)	100 (max)	Customized length available

## 6. Outline Dimensions



**Note:** External physical characteristics are subject to variation. This may include, but is not limited to, external case designs, pull tab colors and/or shapes, removal latch styles or colors, and label sizes and placement. These variations do not affect the function or characteristics of the transceivers.

## 7. Contact Information

Approved Networks is the industry authority on enterprise class, third-party networking products for the smart data center. For over a decade our technical expertise has allowed us to consistently deliver first-to-market compatibility solutions in the most rigorous, optical networking environments. Headquartered in Southern California, Approved Networks provides technical, logistical and sales support to over 3,000 clients in 30 countries.

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