

# 25G/100G AOC

## PRODUCTS

Driving Your Next Generation DataCenter

# SFP28 QSFP28

## QSFP28 Active Optical Cable Assemblies

10Gtek's active optical cable assemblies use state-of-the-art technology to provide cost effective high data throughput interconnects. The cables incorporate E/O and O/E conversion built into the connector shell to yield a dramatic improvement in PCB real estate utilization. Using 850 nm VCSEL technology, the active cable assemblies will operate over a data rate of 25 Gb/s per lane with an aggregate data rate of 100 Gb/s in each direction.

10Gtek's family of active optical cables accelerate data connectivity for storage, networking and high-performance computing (HPC) applications. This product line includes 100GbE and InfiniBand; SFP28 for applications up to 25 to 28 Gb/s. Each cable solution leverages 10Gtek's fiber optic technology for the transmission of data while reducing the weight, density and power consumption of traditional copper solutions. Key advantages of active optical cables include low weight for high port count architectures; small bend radius for easy installations; and low power consumption enabling a greener environment thereby providing the lowest total cost solution for data centers.

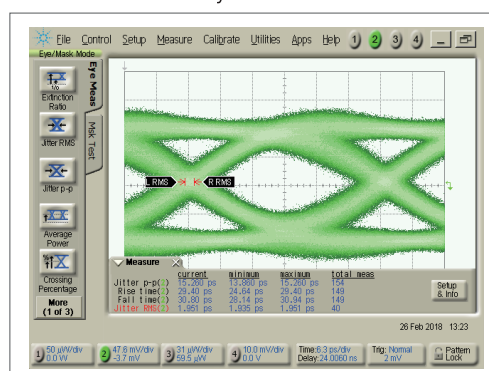
### Features

- Low power consumption of max 2.5W
- Compliant to SFF-8665 (QSFP28 Solution) Revision 1.8
- VCSEL array transmitter and PIN array receiver
- Compliant with 100GBASE-SR4
- Supports 100 Gbps data rate links up to 70m via OM3
- Supports 100 Gbps data rate links up to 100m via OM4
- Hot pluggable electrical interface
- 0 to 70°C case temperature operating range
- RoHS-6 Compliant (lead-free)
- Using standard 12/8 lane optical fiber with 3-mm round cable
- Compliant with CAUI-4 specification per IEEE 802.3bm

### Applications

- Ethernet for 100GBASE-SR4
- HPC Interconnects
- Data center and in-rack connection

Eye Pattern




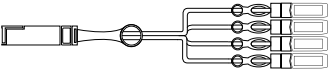
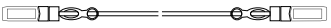
# Operational Specifications

Parameter	Min	Typical	Max	Unit	Note*
Case Operating Temperature	0		70	°C	
Power Supply Voltage	3.135	3.3	3.465	V	
Date Rate per Channel			25.78125	Gbps	
Bit Error Ratio (BER)		$10^{-12}$			1, 2
Control Input Voltage High	2		V <sub>cc</sub> +0.3	V	
Control Input Voltage Low	-0.3		0.8	V	
Two Wire Serial (TWS) Interface Clock Rate			400	kHz	
Differential Data Input / Output Load		100		Ohms	+/- 10%
Standard Cable Lengths			100	m	3

Notes\*:

1. Bit-Error-Rate (BER) is tested with PRBS  $2^{31}-1$  pattern.
2. 100G QSFP28 AOC cable requires an electrical connector compliant with SFF-8662 or SFF-8672 which is used on the host board in order to guarantee its electrical interface specification.
3. Per 100GBASE-SR4 Standard, cable length support up to 70m/100m via OM3/OM4, respectively. Different cable length within this range upon customization.

# Ordering Information

	Part Number	Description	Data Rate	Length (Meters)	Power	BER
	AOC-Q4Q4-XXX	100G QSFP28 AOC Cable	100Gbps	OM3: up to 70m OM4: up to 100m	<2.5W	< $10^{-12}$
	AOC-Q44S-XXX	100G QSFP28 to 4x 25G SFP28 AOC Breakout Cable	100Gbps	OM3: up to 70m OM4: up to 100m	QSFP28: <2.5W SFP28: <0.8W	< $10^{-12}$
	AOC-S4S4-XXX	25G SFP28 AOC Cable	25Gbps	OM3: up to 70m OM4: up to 100m	<0.8W	< $10^{-12}$

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