



## External Cables Transceivers | Loopbacks



**ENSURE RELIABLE  
DATA CENTER  
CONNECTIVITY**

- BizLink's DACs are compliant with IEEE 802.3bj and IEEE 802.3cd, which are compatible with industry standard connectors and cages.

# DATA CENTER SOLUTIONS

Direct Attach Cables

Active Optical Cables

Optical Transceiver

Loopback Modules

- Provide series active optical cables for data center applications with varying speeds
- Compliant with MSA standards
- Fulfill customers' needs in high-speed transmission with low power consumption

- Support total data rates from 10Gb to 400Gb with fully SFF and QSFP-DD MSA compliant
- Provide 2-wire serial communication interface for EERPOM

- Offer a line of 100G and 40G SFP transceivers based on ruggedized integrated optics assembled on automated production lines
- Commercialize 200G and 400G solutions for next generation networks

## APPLICATIONS

- Routers
- Switches
- Data Center Networking
- External Storage Systems

# LOOPBACK MODULES



## 400G QSFP-DD

### > Key Features

- Differential impedance: 100 ±10 ohm
- Supply voltage: 3.3V (Typical)
- Operating temperature: 0°C to 70°C
- Storage temperature: -20°C to 80°C
- Durability: 50 cycles
- Mating force: Max. 40N (Insertion force), max. 30N (Extraction force)
- Module retention: Min. 125N
- Support IEEE 802.3cd



## 100G QSFP28

### > Key Features

- Compliant with 25G/lane NRZ with an aggregate of 100Gb/s total bandwidth
- Available with and without power consumption
- Customized EEPROM
- Excellent EMC/EMI performance
- Operating temperature: 0°C to 70°C
- Single +3.3V power supply
- RoHS 2 compliance
- Support IEEE 802.3bj



## 40G QSFP+

### > Key Features

- Compliant with 10G/lane NRZ with an aggregate of 40Gb/s total bandwidth
- Available with and without power consumption
- Customized EEPROM or QSFP-DD MSA EEPROM
- Excellent EMC/EMI performance
- Operating temperature: 0°C to 70°C
- Single +3.3V power supply
- RoHS 2 compliance
- Support IEEE 802.3ba



## 10G SFP+

### > Key Features

- Compliant with SFF-8431, SFF-8432, and SFF-8472
- Up to 10.3125G data rate per channel
- Operating temperature: 0°C to 70°C
- Single +3.3V power supply
- RoHS compliant
- Support IEEE 802.3ba



## 25G SFP28

### > Key Features

- Compliant with 25G/lane NRZ.
- Compliant with SFF-8431, SFF-8432, and SFF-8472
- Available with and without power consumption
- Customized EEPROM or QSFP-DD MSA EEPROM
- Excellent EMC/EMI performance
- Operating temperature: 0°C to 70°C
- Single +3.3V power supply
- RoHS 2 compliance
- Support IEEE 802.3bj

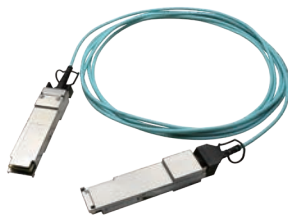
# ACTIVE OPTICAL CABLES



## 400G QSFP-DD

### > Key Features

- 8-channel full-duplex active optical cable
- Electrical interface only
- Multi-rate capability: 53Gbps per channel
- Power consumption < 10W per end
- QSFP-DD high-density form factor
- Reliable VCSEL array technology using multimode fiber
- Hot pluggable
- Case operating temperature: 0°C to 70°C
- RoHS 6 compliant
- Support IEEE 802.3cm



## 100G QSFP28

### > Key Features

- Active optical cable with 4 independent full-duplex channels
- Programmable Rx output amplitude and pre-emphasis
- Programmable Tx input equalizer
- Selectable retiming
- 2.5W max. power dissipation (each end)
- Up to 100m length (OM4 fiber)
- SFF-8665 compliant QSFP28 port
- SFF-8636 compliant I2C management interface
- RoHS compliant
- Support IEEE 802.3bm



## 100G QSFP28 to 4x SFP28

### > Key Features

- Support 100G to 25G Ethernet interoperability
- SFF-8436 QSFP28 compliant
- SFF-8431 SFP28 compliant
- 4-channel 850nm VCSEL array
- Less cabling to order and manage
- Lengths up to 100 meters
- Case operating temperature: 0°C to 70°C
- 3.3V power supply voltage
- Low power consumption



## 400G QSFP-DD

### > Key Features

- Differential impedance: 100 ±10 ohm
- Supply voltage: 3.3V (Typical)
- Operating temperature: 0°C to 70°C
- Storage temperature: -20°C to 80°C
- Durability: 50 cycles
- Mating force: Max. 40N (Insertion force), max. 30N (Extraction force)
- Module retention: Min. 125N
- Bend radius: Min. 5x cable OD
- Support IEEE 802.3cd



## SFP28/QSFP28

### > Key Features

- SFP28: Total data transmission rate 25Gbps Ethernet
- QSFP28: Total data transmission rate 100Gbps Ethernet (25Gbps\*4 channels), 25Gb/s Ethernet per channel
- SFF-8665: QSFP+ pluggable solution, compliant to SFF-8685 and SFF-8635
- Support IEEE 802.3bj



### 25G SFP28

#### Key Features

- 850nm vertical cavity surface emitting laser
- Up to 25.78Gb/s bi-directional data links
- SFP28 MSA compliant
- Case operating temperature: 0°C to 70°C
- Single 3.3V power supply
- Max. link length of 100m on OM4 Multimode Fiber (MMF)
- Low power consumption < 1W
- Compliant to RoHS directives
- Rigid pull-tab
- Diagnostic features per SFF-8472 (Diagnostic Monitoring interface for optical transceivers)
- Support IEEE 802.3by



### 10G SFP+

#### Key Features

- 1 channel operating at up to 10.3125 Gbps
- BER @ 10-12
- Hot pluggable
- Bend insensitive fiber
- Compliant with SFF-8431 specifications
- All-metal housing for superior EMI performance
- Low power consumption < 1W
- Cost effective SFP+ solution for higher port densities and greater bandwidth
- RoHS compliant
- Support IEEE 802.3ae



### 40G QSFP+ 4x SFP+

#### Key Features

- Support 40G to 10G Ethernet interoperability
- SFF-8436 QSFP+ compliant
- SFF-8431 SFP+ compliant
- 4-channel 850nm VCSEL array
- Less cabling to order and manage
- Lengths up to 100 meters
- Case operating temperature: 0°C to 70°C
- 3.3V power supply voltage
- Low power consumption



### 40G QSFP+

#### Key Features

- Active optical cable with 4 independent full-duplex channels
- Electrical interface only
- Comply with QSFP MSA high-density form factor
- Reliable VCSEL array technology using multimode fiber
- Round LSZH-rated cable
- Low power dissipation: <0.7W per cable end
- Case operating temperature: 0°C to 70°C
- RoHS 6 compliant
- Support IEEE 802.3bq



### 56G QSFP+ FDR

#### Key Features

- 100-ohm differential impedance system
- Allow for 14Gbps per channel transmission with an aggregate of 56Gbps total bandwidth
- Optimized PCB interface board to minimize crosstalk and insertion loss
- Robust diecast covers for superior EMI shielding effectiveness
- EEPROM for cable signature and system communications
- 30AWG to 26AWG available
- RoHS compliant
- Support InfiniBand FDR

# DIRECT ATTACH CABLES



### 100G QSFP28 CWDM4 (10km/2km)

#### Key Features

- Hot pluggable QSFP28 form factor
- Two-wire common management interface (SFF-8636 MSA)
- CAUI-4 compliant electrical interface (4 x 25.78125 Gbps)
- Transmission distance up to 10km/2km
- Low power consumption: <3.5W
- Commercial temperature operating up to 70°C
- Duplex LC receptacle for optical connectivity
- Pull tab based latching mechanism (MSA compliant purple color)
- Remote firmware upgrade capability using I2C interface
- Provide capability to place CDRs in bypass mode for 40G operation
- Programmable output de-emphasis and input CTLE



### 40G QSFP+ CWDM4 (10km/2km)

#### Key Features

- Hot pluggable QSFP+ form factor
- Two-wire common management interface (SFF-8436 QSFP+ Rev. 4.8)
- CAUI-4 compliant electrical interface (4 x 10.3125 Gbps)
- Transmission distance up to 10km/2km
- Low power consumption: <3.5W
- Commercial temperature operating up to 70°C
- Duplex LC receptacle for optical connectivity
- Pull tab based latching mechanism (MSA compliant blue color)
- Remote firmware upgrade capability using I2C interface



### 100G QSFP28 LR4

#### Key Features

- Hot pluggable electrical interface QSFP28 MSA form factor
- QSFP footprint (Quad small form factor pluggable)
- Low power dissipation < 4.5W
- Case operating temperature: 0°C to 70°C
- Single 3.3V power supply
- 4x25Gb/s transmitter
- 4x25G retimed electrical interface
- Duplex LC receptacles
- I2C management interface
- Support 103.1Gbps aggregate bit rate
- Compliant to IEEE 802.3ba 100GBASE-LR4
- RoHS 6 compliant
- Up to 10 km reach for G.652 SMF

# OPTICAL TRANSCEIVERS



### 10G SFP+ 850 SR

#### Key Features

- Optical interface compliant to IEEE 802.3ae 10GBASE-LR
- Electrical interface compliant to SFF-8431
- Hot pluggable
- 850nm VCSEL transmitter, PIN photo-detector
- Max. link length of 300m on 2000MHz/km MMF
- Low power consumption
- All-metal housing for superior EMI performance
- Advanced firmware allows customer system encryption information to be stored in transceiver.
- Cost effective SFP+ solution for higher port densities and greater bandwidth
- RoHS 6 compliant
- Support IEEE 802.3ae



### 10G SFP+ BIDI

#### Key Features

- Up to 11.1Gbps data links
- Up to 10km transmission on SMF
- Low power dissipation < 1.5 W
- 1270nm DFB laser and PIN receiver for uplink
- 1330nm DFB laser and PIN receiver for downlink
- 2 wire interface with integrated Digital Diagnostic Monitoring
- Internal calibration for DDM
- EEPROM with serial ID functionality
- Hot-pluggable SFP+ footprint
- Compliant with SFP+ MSA with LC connector
- Single + 3.3V power supply
- Case operating temperature: 0°C to 70°C
- Compliant with RoHS, SFF-8472, and SFF-8431



### 25G SFP28 BIDI (30km)

#### > Key Features

- Up to 25.78Gbps data links
- Up to 30km on SMF
- High sensitivity APD photodiode and TIA
- Rate adaptation
- LC single connector
- Hot-pluggable SFP footprint
- Support Digital Diagnostic Monitoring interface
- Single +3.3V power supply
- RoHS compliant
- Case operating temperature
- Industrial: -40°C to +85°C



### 25G SFP28 BIDI (10km)

#### > Key Features

- Up to 25.78125Gbps data links
- 1310/1270nm DFB laser transmitter and 1270/1310nm PIN receiver
- Up to 10km on SMF
- Hot-pluggable SFP footprint
- Single LC/UPC type pluggable optical interface (bi-directional)
- Metal enclosure for lower EMI
- RoHS compliant
- Support Digital Diagnostic Monitoring interface
- Single +3.3V power supply
- Case operating temperature
- Industrial: -40°C to +85°C



### 100G QSFP28 SR4 (100m)

#### > Key Features

- Compliant with 100G Ethernet IEEE 802.3bm and SFF-8636 QSFP28 MSA
- Hot pluggable electrical interface
- QSFP footprint (Quad small form factor, pluggable)
- Low power dissipation < 3.5W
- Case operating temperature: 0°C to 70°C
- Single 3.3V power supply
- 4 independent full-duplex channels
- MTP/MPO optical connector
- Up to 28Gb/s data rate per channel
- Up to 100m OM4 MMF transmission
- RoHS 6 compliant
- Support IEEE 802.3bm



### 40G QSFP+ 850 SR4

#### > Key Features

- 4-channel 850nm VCSEL array and 4-channel PIN photo detector array
- 4-channel full-duplex transceiver modules
- Low power consumption <1.5W
- Hot pluggable QSFP form factor
- Hot pluggable electrical interface
- Single MPO connector receptacle
- Built-in digital diagnostic functions
- Transmission data rate up to 10.5Gbps per channel
- Case operating temperature: 0°C to 70°C
- 3.3V power supply voltage
- Compliant with 40G Ethernet IEEE 802.3ba 40GBASE-SR4 standard, RoHS 6 compliant (lead free)
- Max. link length of 100m on OM3 MMF and 150m on OM4 MMF



### 100G CWDM4 (TOSA R-LD/TOSA M-LD)

#### > Key Features

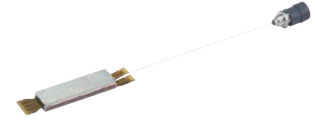
- Up to 25.78125 ±100 ppm operation (NRZ)
- Direct Modulation Laser (DML) Base Quad TOSA for CWDM4
- Useable with M37049G-16 CDR
- Integrated LDD
- 2 wire communication up to 400 kHz
- CWDM4 optical MUX integrated
- Pigtail with LC connector
- SMT style for electrical RF signals



### 100G CWDM4 ROSA (10km/2km)

#### > Key Features

- Up to 25.78125 ±100 ppm operation (NRZ)
- PIN Photodiode (PIN-PD) Base Quad ROSA for CWDM4
- Integrated TIA/LA/CDR
- Programmable output swing, squelch, and de-emphasis
- 2 wire communication up to 400 kHz
- CWDM4 optical De-MUX integrated
- Pigtail with LC connector
- SMT style for electrical RF signals



### 200G FR4 TOSA/ROSA

#### > Key Features

- Up to 26.56 GBd/s (PAM4)
- Direct Modulation Laser (DML) Base Quad TOSA 200G FR4
- PIN Photodiode (PIN-PD) Base Quad ROSA 200G FR4
- Integrated LDD for TOSA and Integrated TIA for ROSA
- 2 wire communication up to 400 kHz
- CWDM optical MUX integrated for TOSA and CWDM optical
- De-MUX integrated for ROSA
- Pigtail with LC connector



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June 2021