HIGH-SPEED OPTICAL TRANSCEIVERS

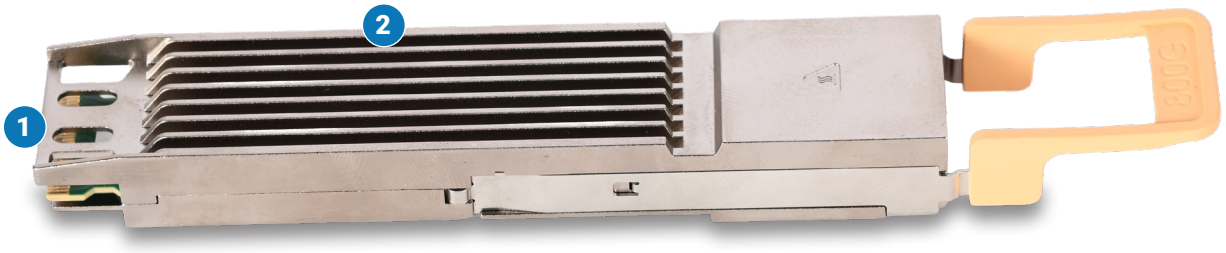
800G PAM4 OSFP SR8 and DR8

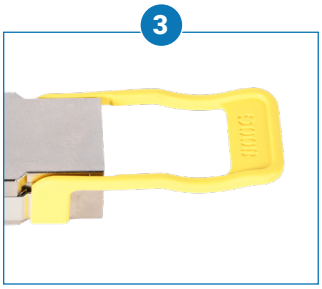
Regional Availability — Global

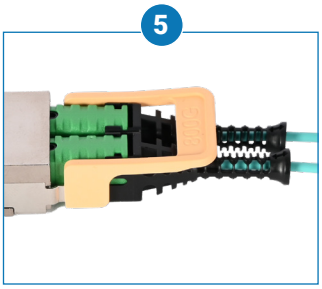
Siemon's 800G PAM4 DSP[1] transceivers are designed to meet and exceed industry performance standards. Each transceiver supports 100G per lane and is offered in OSFP-FT (Finned Top), OSFP-CT (Closed Top), and OSFP-RHS (Riding Heat Sink) form factors. Our DSP-based design is optimized for a significantly lower pre-FEC[2] BER[3], achieving error-free post-FEC performance. These transceivers support either Ethernet or InfiniBand™ NDR protocols and data center reaches of SR8 (Multimode) or DR8 (Singlemode).

Siemon PAM4 transceivers complement Siemon's portfolio of high-speed fiber and copper connectivity solutions in addition to our End-to-End fiber solutions. Our transceivers are supported by expert technical resources, ensuring reliable connectivity for today's most demanding networks.

1: DSP – Digital Signal Processor
2: FEC – Forward Error Correction
3: BER – Bit Error Ratio







1. Error-Free Performance
2. MSA Compliant Connectors
3. Robust Pull-Tab Color-coded by Reach
4. Dual BASE-8 MPO-12 APC and BASE-16 MPO-16 APC Versions
5. Singlemode and Multimode Fiber Options

Network Equipment

- Network Interface Card (NIC)
- Accelerator Cards
- Switches
- Servers
- Storage
- Routers

Applications

- Top-of-Rack
- Rack-to-Rack
- Switch-to-Switch
- Switch-to-Server
- AI/ML Clusters

Protocol Support

- Ethernet 800GbE
  - 800GAUI-8
  - 400GAUI-4
  - 200GAUI-2
  - 100GAUI-1
- InfiniBand NDR

Standards Compliance

- IEEE 802.3df
- IEEE 802.3ck
- OSFP MSA Rev 5.22
- CMIS 4.0*
- IEC 60825-1
- Class 1 Laser 21 CFR 1040.10 & 1040.11
- RoHS/REACH

**Compliant to CMIS 4.0. Compatable with CMIS 4.0 and above*

ABSOLUTE RATINGS

REACH TYPE	SYMBOL	SR8	DR8
STORAGE TEMPERATURE	T_C	-40 to 85°C (-40 to 185°F)	-40 to 85°C (-40 to 185°F)
RELATIVE HUMIDITY	RH	5 to 95%	5 to 95%
SUPPLY VOLTAGE (MAX)	V_{CC}	3.6 V	3.6 V

OPERATIONAL SPECIFICATIONS

REACH TYPE	SYMBOL	SR8	DR8
OPERATING CASE TEMPERATURE	T_{OPR}	0 to 70°C (32 to 158°F)	0 to 70°C (32 to 158°F)
SUPPLY VOLTAGE (TYP)	V_{CC}	3.3 V	3.3 V
POWER CONSUMPTION (MAX)	P_{MAX}	15.0 W	16.0 W
DATA RATE PER ELECTRICAL LANE	-	100G	100G
SIGNALING RATE PER ELECTRICAL LANE	SRL_{EL}	53.125 GBd	53.125 GBd
DATA RATE PER OPTICAL LANE	-	100G	100G
SIGNALING RATE PER OPTICAL LANE	SRL_{OP}	53.125 GBd	53.125 GBd
WAVELENGTH	λ_C	850 nm	1311 nm
POWER BUDGET[1] (MIN)	PB	2.0 dB	3.1 dB
TRANSMIT OUTER OPTICAL MODULATION AMPLITUDE (OMA_{OUTER}) PER LANE	T_{OMA}	-2.1 to 3.5 dBm	-0.8 to 4.2 dBm
RECEIVER SENSITIVITY (OMA_{OUTER}) PER LANE (MAX)	S_{OMA}	-4.6 dBm	-5.3 dBm
TRANSMITTER AND DISPERSION EYE CLOSURE (TDECQ) PER LANE (MAX)	TDECQ	4.4 dB	3.4 dB
DAMAGE THRESHOLD / RECEIVER OVERLOAD (MIN)	DT	5.0 dBm	5.0 dBm
EXTINCTION RATIO (MIN)	ER	2.5 dB	3.5 dB
BIT ERROR RATIO (BER)	BER	Pre-FEC BER = 1E-8 Post-FEC BER = 1E-15	Pre-FEC BER = 1E-8 Post-FEC BER = 1E-15
OPERATING DISTANCE (MAX)	L_{MAX}	30m (OM3) 50m (OM4)	500m (OS2)

1.Power Budget (MIN) is calculated using the minimum value from the following equation for each end of a given channel. Optical Channel Loss should not exceed this value.

$$\textit{Minimum Power Budget} = \left(\textit{Minimum Transmit } OMA_{OUTER} \textit{ per Lane}\right) - \left(\textit{Maximum Receiver Sensitivity } OMA_{OUTER} \textit{ per Lane}\right)$$

MECHANICAL PROPERTIES

CONNECTOR TYPE	FT (FINNED TOP)	CT (CLOSED TOP)	RHS (RIDING HEAT SINK)
INSERTION FORCE (MAX)	40N	40N	55N
EXTRACTION FORCE (MAX)	30N	30N	45N
RETENTION FORCE (MAX)	125N	125N	125N
DURABILITY (MIN)	50 Cycles	50 Cycles	50 Cycles

Additional information available upon request. Please contact our Technical Sales Group if you require further information.

Ordering Information

800G PAM4 Ethernet

Multimode Part Numbers	Connector Type	Reach Type	Max Length	Optical Interface
XCRF800SR8-3A2G	OSFP-FT (Finned Top)	SR8	30m (OM3) 50m (OM4)	Dual MPO-12/APC BASE-8
XCRE800SR8-3A2G	OSFP-RHS (Riding Heat Sink)	SR8	30m (OM3) 50m (OM4)	Dual MPO-12/APC BASE-8
XCRC800SR8-3A2G	OSFP-CT (Closed Top)	SR8	30m (OM3) 50m (OM4)	Dual MPO-12/APC BASE-8

Singlemode Part Numbers	Connector Type	Reach Type	Max Length	Optical Interface
XCRF800DR8-3S2G	OSFP-FT (Finned Top)	DR8	500m (OS2)	Dual MPO-12/APC BASE-8
XCRE800DR8-3S2G	OSFP-RHS (Riding Heat Sink)	DR8	500m (OS2)	Dual MPO-12/APC BASE-8
XCRC800DR8-3S2G	OSFP-CT (Closed Top)	DR8	500m (OS2)	Dual MPO-12/APC BASE-8
XCRC800DR8-3S1S	OSFP-CT (Closed Top)	DR8	500m (OS2)	MPO-16/APC BASE-16

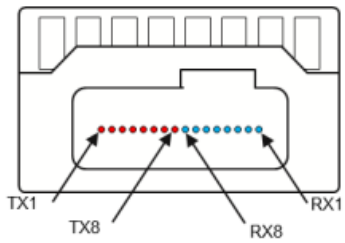
800G InfiniBand NDR

Multimode Part Numbers	Connector Type	Reach Type	Max Length	Optical Interface
XCRF800SR8M3A2G	OSFP-FT (Finned Top)	SR8	30m (OM3) 50m (OM4)	Dual MPO-12/APC BASE-8
XCRE800SR8M3A2G	OSFP-RHS (Riding Heat Sink)	SR8	30m (OM3) 50m (OM4)	Dual MPO-12/APC BASE-8
XCRC800SR8M3A2G	OSFP-CT (Closed Top)	SR8	30m (OM3) 50m (OM4)	Dual MPO-12/APC BASE-8

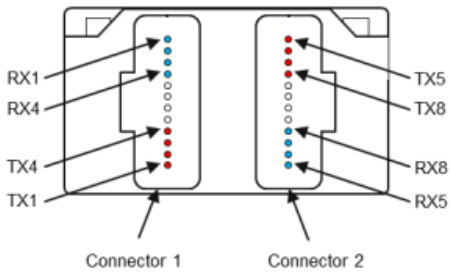
Singlemode Part Numbers	Connector Type	Reach Type	Max Length	Optical Interface
XCRF800DR8M3S2G	OSFP-FT (Finned Top)	DR8	500m (OS2)	Dual MPO-12/APC BASE-8
XCRE800DR8M3S2G	OSFP-RHS (Riding Heat Sink)	DR8	500m (OS2)	Dual MPO-12/APC BASE-8
XCRC800DR8M3S2G	OSFP-CT (Closed Top)	DR8	500m (OS2)	Dual MPO-12/APC BASE-8
XCRC800DR8M3S1S	OSFP-CT (Closed Top)	DR8	500m (OS2)	MPO-16/APC BASE-16

Please contact our Technical Sales Group if you require connectivity or cable configurations that are not listed above.
All transceivers have pinned optical connectors and require unpinned mating fiber connectors unless otherwise specified

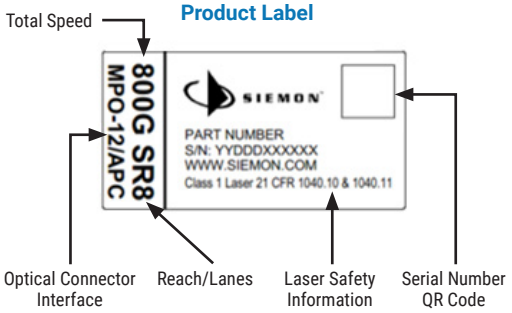
BASE-16 MPO-16 APC Versions



Dual BASE-8 MPO-12 APC



Product Label



Because we continuously improve our products, Siemon reserves the right to change specifications and availability without prior notice.

SCAN TO DOWNLOAD SPEC SHEET

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Siemon OEM Technologies
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www.siemon.com/OEM

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P: (86) 215385 0303

India, Middle East & Africa
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