

Fiber Optic Products Guide

Enterprise, High Speed Interconnect and Storage Applications



800G QSFP-DD (Optical)

Datacom applications for 8x100GE

- Compliant to IEEE 800Gbps electrical specification IEEE802.3ck (Annex 120G 100GAUI-1, 200GAUI-2 and 400GAUI-4) with host FEC
- Compliant to IEEE 400GBASE-DR4 optical specification IEEE802.3bs clause 124
- 800G link distance up to 2 Km on SMF
- QSFP-DD CMIS 4.0 specification compliant
- Class 1 eye safety
- Pull Tab for ease of transceiver insertion and extraction
- 0°C to 70°C case temperature operating range
- Proven high-reliability silicon photonic engine with integrated laser
- Two-wire serial (TWS) interface with digital diagnostic monitoring and maskable interrupts for expended functionality



400G QSFP-DD (Optical)

Datacom applications for 8x50GE

- Compliant to 400GE 802.3bs electrical specs with host FEC for all optical variants
- DR4 to support up to 500m SMF link distance
- DR4+/FR4 to support up to 2 km SMF link distance
- Optical breakout support for 400G DR4/DR4+ to 4x100G DR/FR
- Compliant to QSFP-DD MSA
- Commercial temperature range
- Digital diagnostics monitoring
- Two wire serial management interface



100G QSFP28 (Optical)

Datacom applications for 4x25GE/100GbE/128GFC and for EDR InfiniBand and omni-path applications

- Compliant to 100GbE 802.3 electrical specs for all optical variants
- DR/FR1 to support up to 2 km link distance
- SR4 (eSR4) to support 100m (300m) OM4 MMF link using MPO connectors
- BiDi to support 100m OM4 MMF link using duplex LC connectors
- 100G Single Lambda LR1/FR1/DR to support up to 10 km link distance
- SW4 to support 128GFC up to 100m OM4 MMF link distance
- Compliant to QSFP28 MSA
- Wide case temperature range
- Digital diagnostics monitoring
- Two wire serial management interface



1G SFP, 10G SFP+ & 25G SFP28 (Optical and 1GBASE-T)

Datacom applications using 1/10/25 Gigabit Ethernet and 64G/32G/16G/8G/4G/2G/1G Fibre Channel

Fronthaul applications using 1.22G through 25.78G eCPRI

- 3.3V operating voltage
- Short- and long-reach applications
- Digital diagnostics monitoring
- Available for 1G SFP copper with RJ-45
- Available in commercial, extended, and industrial operating temperatures for selected applications



SFP56 (Optical)

For multi-mode optical fiber

- Compliant to RoHS directives
- High performance 850nm Vertical Cavity Surface Emitting Laser (VCSEL) and PIN diode
- Class 1 eye safe per IEC60825-1 and CDRH
- Wide temperature range (0°C to 75°C)
- LC duplex connector optical interface conforming to ANSI TIA/EIA604-10 (FOCIS 10A)
- Diagnostic features per SFF-8472 "Diagnostic Monitoring Interface for Optical Transceivers"
- Enhanced operational features including EWRAP, OWRAP and adaptive electrical EQ/emphasis settings.
- Integrated PRBS generator and bit error rate checker
- Real time monitoring of: transmitter average optical power, received average optical power, laser bias current, temperature, supply voltage, power on hours
- SFP+ mechanical specifications per SFF-8432
- SFP+ compliant low speed interface per SFF-8419
- Fibre Channel FC-P1-7 compliant high speed optical and electrical interface



300G CXP2 (Optical)

High bandwidth data center interconnects for switching, routing; high performance computing

- CXP2 up to 300G aggregate bandwidth (12 x25G) with link distance up to 100m
- Compatible with InfiniBand, PCIe, Ethernet, and proprietary interconnects
- 0-70°C case temperature
- Full digital monitoring feature set including Tx equalization, Rx de-emphasis, and full CDR functionality (CXP2).

40G QSFP+ (Optical)

Datacom applications for 4x10GE/40GbE/4x14G, and for QDR InfiniBand applications

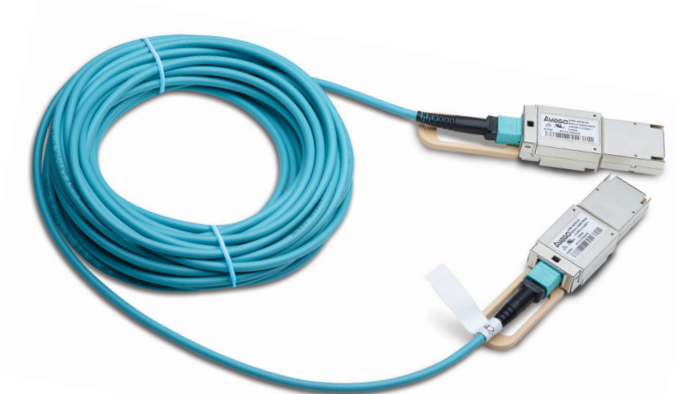
- SR4 to support 4xQDR/40GE aggregate application up to 150m OM4 MMF link distance
- iSR4 to support 4x10GE/40GE up to 150m OM4 MMF link distance
- eSR4 to support 4x10GE/40GE up to 400m OM4 MMF link distance
- Bi-Directional (BiDi) to support 40GE up to 150m link distance over LC Duplex OM4 MMF
- Digital diagnostics monitoring
- Two wire serial management interface



CXP2 Active Optical Cables

High bandwidth data center interconnects for switching, routing; high performance computing

- CXP2 up to 300G aggregate bandwidth (12 x25G)
- Compatible with InfiniBand, PCIe, Ethernet, and proprietary interconnects
- 0-70°C case temperature
- Cable lengths up to 100m
- Full digital monitoring feature set including Tx equalization, Rx de-emphasis, and full CDR functionality (CXP2)



Future Products in Development

For products not listed on this brochure, please contact your local Sales team. Custom products or products in active development are not shown on this products guide.

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Broadcom Fiber Optic Products Guide

Market Segment	Product Segment	Form Factor / Description	Part Number	Fiber Type	Data Rate (Maximum)	Reach	Operating Wavelength	Transmitter	Receiver	Case Temperature Range	Optical Connector	
Ethernet	1G	SFP Cu	ABCU-57xxxRZ	Copper	1 Gb/s	100m	N/A	N/A	N/A	0 to 70°C / -40 to 85°C	RJ-45	
	1G	SFP SX	AFBR-571xxxZ	MMF	1 Gb/s	550m	850nm	VCSEL	PIN	Various	LC	
	1G	SFP SX	AFBR-57M5APZ	MMF	2.125 Gb/s	550m	850nm	VCSEL	PIN	-10 to 85°C	LC	
	1G	SFP LX	AFCT-571xxxZ	SMF	1 Gb/s	10km	1310nm	FP	PIN	Various	LC	
	10G	SFP+ SR	AFBR-710DMZ	MMF	10 / 1 Gb/s	300m OM3 / 400m OM4	850nm	VCSEL	PIN	0 to 70°C	LC	
	10G	SFP+ SR	AFBR-710xSMZ	MMF	10 Gb/s	300m OM3 / 400m OM4	850nm	VCSEL	PIN	Various	LC	
	10G	SFP+ LR	AFCT-739DMZ	SMF	10 / 1 Gb/s	10km	1310nm	DFB	PIN	0 to 70°C	LC	
	10G	SFP+ LR	AFCT-739xSMZ	SMF	10 Gb/s	10km	1310nm	DFB	PIN	Various	LC	
	25G	SFP28 SR	AFBR-735xSMZ	MMF	25.78 / 10 Gb/s	70m OM3 / 100m OM4	850nm	VCSEL	PIN	0 to 70°C / 0 to 85°C	LC	
	25G	SFP28 SR	AFBR-735TMZ	MMF	25.78 / 10 Gb/s	30m OM3 / 50m OM4 (BER < 1e-12, no-FEC)	850nm	VCSEL	PIN	0 to 70°C	LC	
	25G	SFP28 SR	AFBR-734xSMZ	MMF	25.78 Gb/s (Fixed Rate)	70m OM3 / 100m OM4	850nm	VCSEL	PIN	0 to 70°C / 0 to 85°C	LC	
	25G	SFP28 SR	AFBR-734TMZ	MMF	25.78 Gb/s (Fixed Rate)	30m OM3 / 50m OM4 (BER < 1e-12, no-FEC)	850nm	VCSEL	PIN	0 to 70°C	N/A	
	25G	SFP28 LR	AFCT-725SMZ	SMF	25.78 Gb/s	10km	1310nm	DFB	PIN	0 to 70°C	LC	
	40G	QSFP+ eSR4	AFBR-79E3PZ	MMF	40 Gb/s & 4 x 10.3125 Gb/s	300m OM3 / 400m OM4	850nm	VCSEL	PIN	0 to 70°C	MPO	
	40G	QSFP+ eSR4	AFBR-79EEPZ	MMF	40 Gb/s & 4 x 10.3125 Gb/s	300m OM3 / 400m OM4	850nm	VCSEL	PIN	0 to 70°C	MPO	
	40G	QSFP+ ISR4	AFBR-79EIXZ	MMF	40 Gb/s & 4 x 10.3125 Gb/s	100m OM3 / 150m OM4	850nm	VCSEL	PIN	0 to 70°C	MPO	
	40G	QSFP+ SR4	AFBR-79EQxZ	MMF	40 Gb/s & 4 x 10.3125 Gb/s	100m OM3 / 150m OM4	850nm	VCSEL	PIN	0 to 70°C	MPO	
	40G	QSFP+ BiDi	AFBR-79EBxZ	MMF	40 Gb/s	100m OM3 / 150m OM4	850 / 900nm	VCSEL	PIN	10 to 70°C	LC	
	100G	QSFP28 SR4	AFBR-89CDHZ*	MMF	100 Gb/s & 4 x 25.78 Gb/s	70m OM3 / 100m OM4	850nm	VCSEL	PIN	0 to 70°C	MPO	
	100G	QSFP28 eSR4	AFBR-89CEHZ*	MMF	100 Gb/s & 4 x 25.78 Gb/s	170m OM3 / 300m OM4	850nm	VCSEL	PIN	0 to 70°C	MPO	
	100G	QSFP28 BiDi	AFBR-89BDDZ	MMF	100 Gb/s	70m OM3 / 100m OM4 / 150m OM5	850nm/910nm	VCSEL	PIN	10 to 70°C	LC	
	100G	QSFP28 DR1	AFCT-89SDDZ / AFCT-89SDHZ*	SMF	100 Gb/s	500m	1310nm	EML	PIN	0 to 70°C	LC	
	100G	QSFP28 FR1	AFCT-89SFDZ / AFCT-89SFHZ*	SMF	100 Gb/s	2km	1310nm	EML	PIN	0 to 70°C	LC	
	100G	QSFP28 LR1	AFCT-89SLHZ*	SMF	100 Gb/s	10km	1310nm	EML	PIN	0 to 70°C	LC	
	400G	QSFP-DD DR4+	AFCT-91DRPHZ*	SMF	400 Gb/s	2km	1310nm	EML	PIN	0 to 70°C	MPO	
	400G	QSFP-DD DR4	AFCT-91DRDHZ*	SMF	400 Gb/s	500m	1310nm	EML	PIN	0 to 70°C	MPO	
	800G	QSFP-DD DR8+	AFCT-95DRPDZ*	SMF	800 Gb/s	2km	1310nm	EML	PIN	0 to 70°C	MPO	
	800G	QSFP-DD DR8	AFCT-95DRDDZ*	SMF	800 Gb/s	500m	1310nm	EML	PIN	0 to 70°C	MPO	
	Storage / Fibre Channel	1G	SFP SW	AFBR-570xxxZ	MMF	1.25 / 1.0625 Gb/s	550m at 1.0625 GBd	850nm	VCSEL	PIN	Various	LC
		1G	SFP SW	AFCT-570xxxZ	SMF	1.25 / 1.0625 Gb/s	10Km	1310nm	FP	PIN	Various	LC
2G		SFP SW	AFBR-57M5APZ	MMF	2.125 / 1.06 Gb/s	300m at 2.125 GBd	850nm	VCSEL	PIN	-10 to 85°C	LC	
2G		SFP SW	AFBR-592xALZ	MMF	2.125 / 1.06 Gb/s	300m at 2.125 GBd	850nm	VCSEL	PIN	-40 to 85°C	LC	
2G		SFP SW	AFBR-59M5LZ	MMF	2.125 / 1.06 Gb/s	300m at 2.125 GBd	850nm	VCSEL	PIN	-10 to 70°C	LC	
4G		SFP SW	AFBR-57RxxxZ	MMF	4.25 / 2.125 / 1.06 Gb/s	150m at 4.25 GBd	850nm	VCSEL	PIN	-10 to 85°C	LC	
4G		SFP SW	AFBR-57R6AxZ	MMF	4.25 / 2.125 / 1.06 Gb/s	150m at 4.25 GBd	850nm	VCSEL	PIN	-10 to 85°C	LC	
4G		SFP SW	AFBR-59R5xLZ	MMF	4.25 / 2.125 / 1.06 Gb/s	150m at 4.25 GBd	850nm	VCSEL	PIN	Various	LC	
8G		SFP+ SW	AFBR-57D9AMZ	MMF	8.5 / 4.25 / 2.125 Gb/s	150m at 8.5 GBd	850nm	VCSEL	PIN	-10 to 85°C	LC	
8G		SFP+ LW	AFCT-57D3AxMZ	SMF	8.5 / 4.25 / 2.125 Gb/s	10km and 25km at 8.5GBd	1310nm	DFB	PIN	-10 to 85°C	LC	
10G		SFP+ SR	AFBR-710xFMZ	MMF	10 Gb/s	300m OM3 / 400m OM4	850nm	VCSEL	PIN	-40 to 85°C	LC	
16G		SFP+ SW	AFBR-57F5xxMZ	MMF	14.025 / 10.3 / 8.5 / 4.25 Gb/s	100m at 14.025 GBd	850nm	VCSEL	PIN	0 to 70°C / 0 to 85°C	LC	
16G		SFP+ SW	AFBR-57F5PZ	MMF	14.025 / 8.5 / 4.25 Gb/s	125m OM4 @ 14.025GBd	850nm	VCSEL	PIN	0 to 70°C / 0 to 85°C	LC	
16G		SFP+ LW	AFCT-57F3xxMZ	SMF	14.025 / 8.5 / 4.25 Gb/s	10km and 25km at 14.025GBd	1310nm	DFB	PIN	0 to 70°C / 0 to 85°C	LC	
32G		SFP28 SW	AFBR-57G5PZ	MMF	28.05 / 14.025 / 8.5 Gb/s	100m OM4 @ 28.05 GBd	850nm	VCSEL	PIN	0 to 70°C	LC	
32G		SFP28 SW	AFBR-57G5xMZ	MMF	28.05 / 14.025 / 8.5 Gb/s	100m OM4 at 28.05 GBd	850nm	VCSEL	PIN	0 to 70°C / 0 to 85°C	LC	
32G		SFP28 LW	AFCT-57G5MZ	SMF	28.05 / 14.025 / 8.5 Gb/s	10km at 28.05GBd	1310nm	DFB	PIN	0 to 70°C	LC	
64G		SFP56 SW	AFBR-57H5MZ	MMF	57.8 / 28.05 / 14.025 Gb/s	100m OM4	850 nm	VCSEL	PIN	0 to 70°C	LC	
128G	QSFP28 iSW4	AFBR-89FMDZ	MMF	4 x 28.05 / 14.025 Gb/s	100m OM4 at 28.05 GBd	850nm	VCSEL	PIN	0 to 70°C	MPO		
128G	QSFP28 SW4	AFBR-89FDDZ	MMF	4 x 28.05 Gb/s	100m OM4 at 28.05 GBd	850nm	VCSEL	PIN	0 to 70°C	MPO		
High Speed Interconnect	CXP2	CXP2 Txcr	AFBR-86PDAZ	MMF	12 ch @23.00 Gb/s per channel	70m OM3 / 100m OM4	850nm	VCSEL	PIN	0 to 70°C	MPO	
	CXP2	CXP2 AOC	AFBR-86YDxxZ	MMF	12 ch @25.00 Gb/s per channel	up to 100m	850nm	VCSEL	PIN	0 to 70°C	MPO	
	CXP2	CXP2 AOC	AFBR-86EDxxZ	MMF	12 ch @25.78 Gb/s per channel	up to 100m	850nm	VCSEL	PIN	0 to 70°C	MPO	
Wireless	4G	SFP SW	AFBR-57J5APZ	MMF	3.7 / 3.072 / 2.4576 Gb/s	500m	850nm	VCSEL	PIN	-40 to 85°C	LC	
	8G	SFP+ SW	AFBR-57J9AMZ	MMF	6.144 / 7.3728 Gb/s	300m	850nm	VCSEL	PIN	-40 to 85°C	LC	
	10G	SFP+ SR	AFBR-710JAMZ	MMF	9.83 Gb/s	300m OM3/400m OM4	850nm	VCSEL	PIN	-40 to 85°C	LC	
	10G	SFP+ SR	AFCT-739JAMZ	SMF	9.83 Gb/s	10km	1310nm	DFB	PIN	-40 to 85°C	LC	
	25G	SFP28 SR	AFBR-735JAMZ*	MMF	25.78/24.33/10.3125/9.83 Gb/s	100m OM4	850nm	VCSEL	PIN	-40 to 85°C	LC	

AOC: xx = Length
*Please contact Sales for details.

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