

2019



Optical Transceiver Module

PRODUCT BROCHURE

LINKU



Catalog

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155M~2.5Gb/s SFP Transceivers

APPLICATIONS

- Gigabit Ethernet
- Fiber Channel
- Other Optical Links



FEATURES

- Operating Data Rate up to 2.5Gbps
- Single 3.3V Power Supply and TTL Logic Interface
- Class 1 FDA and IEC60825-1 Laser Safety Compliant
- Compliant with SFP MSA Specification

Ordering Information:

Part No.	Data Rate	Wavelength	Distance	Operating Temp.	Tx Power (dBm)	Rx Sensitivity (dBm)
LRJ-180	10/100/1G	RJ45, CAT5	100m	-40°C~85°C	-	-
LRJ-181	1.25G	RJ45, CAT5	100m	-40°C~85°C	-	-
LS1-500	1.25G	850nm VCSEL	550m	0°C-70°C	-8~ -4	-18
LS1-100	1.25G	1310nm FP	15Km	0°C-70°C	-9~ -3	-20
LS1-180	1.25G	1310nm FP	15Km	-40°C~85°C	-9~ -3	-20
LS1-220	1.25G	TX1310/RX1490	20Km	0°C-70°C	-9~ -3	-22
LS1-221	1.25G	TX1490/RX1310	20Km	0°C-70°C	-9~ -3	-22
LS1-400	1.25G	1310nm DFB	40Km	0°C-70°C	-2~ +3	-23
LS1-401	1.25G	1550nm DFB	40Km	0°C-70°C	-4~ +1	-20
LS1-800	1.25G	1550nm DFB	80Km	0°C-70°C	-2~ +3	-23
LS1-990	1.25G	1550nm DFB+APD	120Km	0°C-70°C	0~ +3	-31
LS2-100	2.5G	1310nm FP	2Km	0°C-70°C	-9~ -3	-18
LS2-101	2.5G	1310nm DFB	15Km	0°C-70°C	-5~ 0	-18
LS2-181	2.5G	1310nm DFB	15Km	-40°C~85°C	-5~ 0	-18
LS2-400	2.5G	1310nm DFB+APD	40Km	0°C-70°C	-2~ +3	-27
LS2-800	2.5G	1550nm DFB+APD	80Km	0°C-70°C	-2~ +3	-28

10Gb/s XFP Transceivers

APPLICATIONS

- SONET OC-192
- SDH STM 64 at 9.953Gbps
- 10G Ethernet
- 10G Fiber Channel
- 10GE over G.709 at 11.09Gbps
- OC192 over FEC at 10.709Gbps



FEATURES

- Operating data rate up to 11.3Gbps
- Laser Class 1 compliant
- Compliant with XFP MSA

Ordering Information

Part No.	Description	Data Rate	Wavelength	Distance	Operating Temp.	Tx Power (dBm)	Rx Sensitivity (dBm)
LX-100	XFP LR	10.3Gbps	1310nm DFB	10Km	0°C-70°C	-3~ +1	-14
LX-400	XFP ER	10.3Gbps	1550nm EML	40Km	0°C-70°C	-1~ +4	-16
LX-800	XFP ZR	10.3Gbps	1550nm EML +APD	80Km	0°C-70°C	0~ +5	-24
LX-4XX	XFP DWDM	10.3Gbps	DWDM	40Km	0°C-70°C	0~ +5	-16
LX-8XX	XFP DWDM	10.3Gbps	DWDM+APD	80Km	0°C-70°C	0~ +5	-24
LX-220	XFP DWDM	10.3Gbps	TX1270nm/RX1330nm	20Km	0°C-70°C	-3~ +1	-14
LX-221	XFP DWDM	10.3Gbps	TX1330nm/RX1270nm	20Km	0°C-70°C	-3~ +1	-14

10Gb/s SFP+ Transceivers

APPLICATIONS

- 10G Ethernet
- 10G Fiber Channel



FEATURES

- Operating data rate up to 10.3Gbps
- Transmission distance up to 80Km
- Single +3.3V Power supply and TTL Logic interface
- Compliant with SFP+ MSA Specification
- Compliant with 1.0625G~8.5G FC standard

Ordering Information

Part No.	Description	Data Rate	Wavelength	Distance	Operating Temp.	Tx Power (dBm)	Rx Sensitivity (dBm)
LS10-500	SFP+SR	10.3Gbps	850nm VCSEL	300m	0°C~70°C	-6~ -1	-11.1
LS10-580	SFP+SR	10.3Gbps	850nm VCSEL	300m	-40°C~85°C	-6~ -1	-11.1
LS10-100	SFP+LR	10.3Gbps	1310nm DFB	10Km	0°C~70°C	-3~ +1	-14.4
LS10-180	SFP+ LTE	10.3Gbps	1310nm FP	1.4Km	-40°C~85°C	-6~ -1	-14.4
LS10-181	SFP+LR	10.3Gbps	1310nm DFB	10Km	-40°C~85°C	-3~ +1	-14.4
LS10-400	SFP+LR	10.3Gbps	1310nmDFB+APD	40Km	0°C~70°C	-3~ +1	-23
LS10-401	SFP+ER	10.3Gbps	1550nmEML	40Km	0°C~70°C	-1~ +2	-14.1
LS10-800	SFP+ZR	10.3Gbps	1550nmEML+APD	80Km	0°C~70°C	0~ +4	-23
LS10-4XX	SFP+DWDM	10.3Gbps	DWDM EML	40Km	0°C~70°C	-1~ +2	-14.4
LS10-8XX	SFP+DWDM	10.3Gbps	DWDM EML+APD	80Km	0°C~70°C	0~ +4	-24
LS10-220	SFP+BIDI	10.3Gbps	TX1270nm/RX1330nm	20Km	-40°C~85°C	-2~ +2	-14.4
LS10-221	SFP+BIDI	10.3Gbps	TX1330nm/RX1270nm	20Km	-40°C~85°C	-2~ +2	-14.4
LS10-420	SFP+BIDI	10.3Gbps	TX1270nm/RX1330nm	40Km	0°C~70°C	+1~ +5	-14.4
LS10-420	SFP+BIDI	10.3Gbps	TX1330nm/RX1270nm	40Km	0°C~70°C	+1~ +5	-14.4

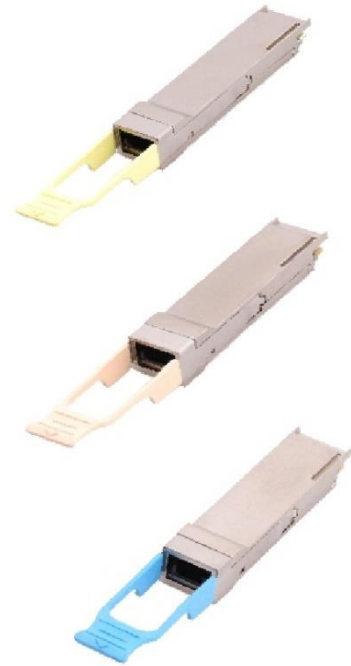
40Gb/s QSFP+ Transceivers

APPLICATIONS

- InfiniBand
- 40G Ethernet
- Data center, Server and Super computer

FEATURES

- 4 Parallel lanes design (SR4, eSR4, PSM LR4, PSM IR4)
- 4 CWDM lanes Mux design (LR4, IR4, ER4)
- Compliant with QSFP+MSA Specification
- Low-power consumption
- Operating Temperature Range: 0~70°C



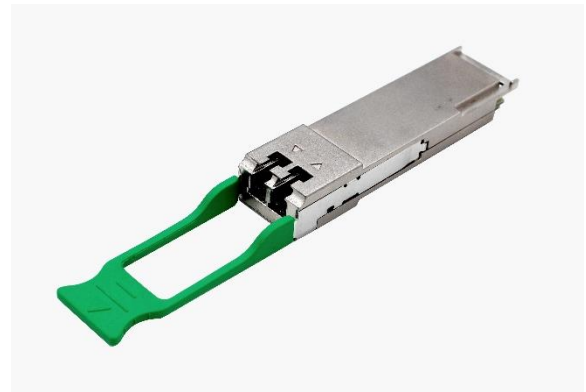
Ordering Information

Part No.	Description	Data Rate	Wavelength	Distance	Power Consumption	Tx Power (dBm)	Rx OMA Sensitivity (dBm)	Connector & Fiber
LQ-500	QSFP+SR4	40Gbps	850nm VCSEL	100m	< 1.5W	-7.6~ +1	-9.5	MPO/MMF
LQ-501	QSFP+eSR4	40Gbps	850nm VCSEL	300m	< 1.5W	-7.3~ +1	-9.9	MPO/MMF
LQ-100	QSFP+LR4 Lite	40Gbps	DFB CWDM	2Km	< 3.5W	-7~ +2.3	-11.7	LC/SMF
LQ-101	QSFP+LR4	40Gbps	DFB CWDM	10Km	< 3.5W	-7~ +2.3	-13.7	LC/SMF
LQ-900	QSFP+PSM IR4	40Gbps	1310nm FP	1.4Km	< 3.5W	-5.5~ +1.5	-11.5	MPO/MMF
LQ-901	QSFP+PSM LR4	40Gbps	1310nm DFB	10Km	< 3.5W	-5.5~ +1.5	-12.6	MPO/MMF

100Gb/s QSFP28 Transceivers

APPLICATIONS

- InfiniBand
- 100G Ethernet
- Data center, Server and Super computer



FEATURES

- 4 Parallel lanes design (SR4, eSR4, PSM LR4, PSM IR4)
- 4 CWDM lanes Mux design (LR4, CWDM4)
- Compliant with QSFP28 MSA Specification
- Low-power consumption
- Operating Temperature Range: 0~70°C

Ordering Information

Part No.	Description	Data Rate	Wavelength	Distance	Power Consumption	Tx Power (dBm)	Rx OMA Sensitivity (dBm)	Connector & Fiber
LQ28-500	QSFP28 SR4	100Gbps	850nm VCSEL	100m	< 2W	-4~ +2.4	-5.6	MPO/MMF
LQ28-501	QSFP28 eSR4	100Gbps	850nm VCSEL	300m	< 2W	-4~ +2.4	-8	MPO/MMF
LQ28-100	QSFP28 CWDM4	100Gbps	CWDM	2Km	< 3.5W	-6~ +2.5	-10	LC/SMF
LQ28-101	QSFP28 LR4	100Gbps	LAN-WDM	10m	< 4.5W	-7~ +2.3	-8.6	LC/SMF
LQ28-102	QSFP28 RX4	100Gbps	RX Only	--	< 3.5W	--	-8.6	LC/SMF
LQ28-901	QSFP28 PSM IR4	100Gbps	1310nm DFB	2Km	--	--	--	MPO/SMF
LQ28-120	QSFP LR4/OTU4 Dual Rate	100Gbps 112Gbps	LAN-WDM	10km	< 3.5W	--	--	LC/SMF

100Gb/s CFP2 Transceivers

APPLICATIONS

- OTN-OTU4
- Switch to switch/router interface
- P to P Access Network

FEATURES

- Single +3.3V power supply
- Operating optical data rate up to 112Gbps
- Operating electrical serial data rate up to 27.952493Gbps
- 4 parallel electrical serial interfaces
- Transmission distance up to 10Km
- 1310 nm window cooled EA-DFB LD
- Low-power consumption
- Operating temperature range: 0 ~ 70°C
- Compliant with ROHS
- MDIO Communication Interface
- Compliant with IEEE 802.3ba
- Compliant with CFP2 MSA



Ordering Information:

Part No.	Description	Data Rate	Distance	Power Consumption	Tx Power (dBm)	Rx OMA Sensitivity (dBm)	Note
LC2-100	CFP2 LR4	100Gbps	10Km	< 6W	-2.9~ +4.5	-8.6	LAN-WDM EML
LC2-101	CFP2 RX4	100Gbps	--	< 4W	--	-8.6	RX ONLY
LC2-102	CFP2 LR4	100Gbps	10Km	< 5W	-2~ +4	-8.6	LAN-WDM DML
LC2-201	CFP2 RX4	100Gbps	20Km	< 5W	--	--	APD RX ONLY
LC2-400	CFP2 ER4	100Gbps	40Km	--	--	--	EML+SOA+PIN

Active Optical Cable (AOC)

APPLICATIONS

- 10G/40G/100G Ethernet
- InfiniBand QDR, DDR, SDR
- Cost effective link solution
- System cascade applications
- System Internal data link solution
- Proprietary high speed, high density data transmission
- Switch and router high speed backplane interconnect
- High performance computing, server and data storage



FEATURES

- Reliable 850nm VCSEL and PIN photonic devices
- Hot-pluggable cable ends
- Single 3.3V power supply
- Low power consumption: <math><1.3\text{W}</math> @QSFP+ end, <math><1\text{W}</math> @SFP+ ends
- Management interface and DDM through I2C
- Commercial temperature range: 0~ 70 °C
- RoHS-6 Compliant



WHOLE SERIES

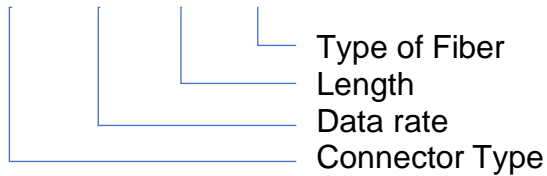
- 10Gb/s SFP+ to SFP+
- 25Gb/s SFP28 to SFP28
- 40Gb/s QSFP+ to QSFP+
- 40Gb/s QSFP+ to 4* 10Gb/s SFP+ (Breakout)
- 40Gb/s QSFP+ to 8* LC (Breakout)
- 56Gb/s QSFP+ to QSFP+
- 100Gb/s QSFP28 to QSFP28
- 100Gb/s QSFP28 to 4* 25Gb/s SFP28 (Breakout)
- Other customized models



Ordering Information

Part No. AXX – XX – XXX [/ XXX]

Sample: ADS – 10 – 010 / OM3



Part No.	Data Rate	Length Range	Connector & fiber	Operating Temp.
10G SFP+ to SFP+				
ADS-10-XXX	10G	0.5~300M	SFP+/MMF	0°C~70°C
25G SFP28 to SFP28				
ADS-25-XXX	25G	0.5~100M	SFP28/MMF	0°C~70°C
40G QSFP+ to QSFP+				
ADQ-40-XXX	40G	0.5~50M	QSFP+/MMF	0°C~70°C
40G QSFP+ to 4* 10G SFP+				
AQS-40-XXX	40G	0.5~50M	QSFP+/SFP*/MMF	0°C~70°C
40G QSFP+ to 8* LC				
AQL-40-XXX	40G	0.5~50M	QSFP+/LC/MMF	0°C~70°C
56G QSFP+ to QSFP+				
ADQ-56-XXX	56G	0.5~50M	QSFP+/MMF	0°C~70°C
100G QSFP28 to QSFP28				
ADQ-100-XXX	100G	0.5~50M	QSFP28/MMF	0°C~70°C
100G QSFP28 to 4* 25G SFP28				
AQS-100-XXX	100G	0.5~50M	QSFP28/SFP28/MMF	0°C~70°C

※ The length of cable can be customized.

Common length : 0.5/1/2/3/5/7/10/15/20/30/50/75/100M

Maximum of the length bases on the data rate and type of cable.

Direct Attach Copper (DAC)

APPLICATIONS

- Switches, Servers, Routers and Hub
- Data Center & Storage area networks
- High performance computing
- Telecommunication and wireless infrastructure
- Test and measurement equipment

FEATURES

- Hot pluggable
- High cost effective to Fiber optics solution
- Low power consumption
- Enhanced EMI suppression
- Differential impedance 100ohm
- Temperature Range: 0~ 70 °C
- Customizable EEPROM mapping for cable signature
- RoHS compliant

WHOLE SERIES

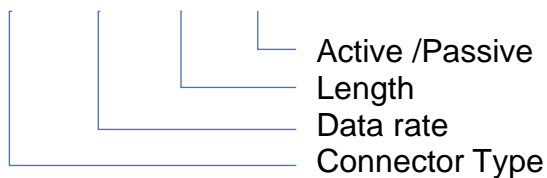
- 10Gb/s SFP+ to SFP+
- 25Gb/s SFP28 to SFP28
- 40Gb/s QSFP+ to QSFP+
- 40Gb/s QSFP+ to 4* 10Gb/s SFP+ (Breakout)
- 40Gb/s QSFP+ to 8* LC (Breakout)
- 56Gb/s QSFP+ to QSFP+
- 100Gb/s QSFP28 to QSFP28
- 100Gb/s QSFP28 to 4* 25Gb/s SFP28 (Breakout)
- Other customized models



Ordering Information

Part No. DXX – XX – XXX / X

Sample: DDS – 10 – 010 / P



Part No.	Data Rate	Length Range	Guage AWG	Operating Temp.
10G SFP+ to SFP+				
DDS-10-XXX	10G	0.5~15M	24/26/28/30	0°C~70°C
25G SFP28 to SFP28				
DDS-25-XXX	25G	0.5~7M	26/30	0°C~70°C
40G QSFP+ to QSFP+				
DDQ-40-XXX	40G	0.5~7M	24/26/28	0°C~70°C
40G QSFP+ to 4* 10G SFP+				
DQS-40-XXX	40G	0.5~7M	24/30	0°C~70°C
56G QSFP+ to QSFP+				
DDQ-56-XXX	56G	0.5~7M	26/30	0°C~70°C
100G QSFP28 to QSFP28				
DDQ-100-XXX	100G	0.5~5M	26/30	0°C~70°C
100G QSFP28 to 4* 25G SFP28				
DQS-100-XXX	100G	0.5~5M	26/28/30	0°C~70°C

※ The length of cable can be customized.

Common length: 0.5/1/2/3/5/7/10M

Maximum of the length bases on the data rate and type of cable.



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