FIBERSTAMP
OPEN OPTICAL NETWORK MAIL CARRIER

FIBERSTAMP OPEN OPTICAL NETWORK PRODUCT GUIDE

Optical Device for Different Network Types

Intergrated Solutions For Different Application Field

- Data Center & AI Computing
- Metro Telecom & 5G
- Lab Testing Equipment
- UHD SDI Video Transmission

Optical Transceivers

AOC (Active Optical Cables)

DAC (Direct Attached Cables)

Transceiver Checkers & Loopback

Immersion Liquid Cooling Optics

SDI Optical Interconnect Products

PHO (Pluggable Hybrid Optics) **Transceivers/ AOC/ACC+**

Hybrid **AI&DC Interconnect Innovation Solutions**

Traditional Solutions	VS	HYBRID Solutions	
Power Consumption		Lower Power Consumption	30%
Latency		Ultra-lower Latency	50%
Cost		Better Cost Performance	30%

PHO(Pluggable Hybrid Optics) Architecture SiPh Transceivers

Features
- Transmission up to 500m SMF
- Silicon Photonics Technology
- Comprehensively superior to traditional DSP solutions

Product Name	Wavelength	LD	PD	Max Distance or Length	Optical Interface	Max.Power Consumption	Part Number
800G OSFP-PHO 2xDR4	1310nm	SiPh	PIN	500m	Dual MPO	13W	Preliminary
1.6T OSFP224-PHO 2xDR4	1310nm	SiPh	PIN	500m	Dual MPO	21W	Preliminary

Hybrid Architecture Equivalent AOC(Active Optical Cable)

Features
- Transmission up to 30m over OM3/50m over OM4 MMF and 500m over SMF
- Comprehensively superior to traditional DSP solutions

Product Name	Standard	LD	PD	Reach	Max.Power Consumption	Part Number
400G QSFP-DD Hybrid VR8-AOC	400G-VR8	850nm VCSEL	PIN	1-50m	6.6W	Preliminary
800G OSFP Hybrid VR8-AOC	800G-VR8	850nm VCSEL	PIN	1-50m	9W	Preliminary
800G OSFP Hybrid PSM8-AOC	800G-PSM8	1310nm SiPh	PIN	1-500m	12.5W	Preliminary
1.6T OSFP224 Hybrid PSM8-AOC	1.6T-PSM8	1310nm SiPh	PIN	1-500m	21W	Preliminary
1.6T OSFP224 -PHO 2xDR4-H To 2x800G DR4 AOC	1.6T-2xDR4	1310nm SiPh	PIN	1-500m	21W	Preliminary

Hybrid Architecture Equivalent ACC(Active Copper Cable)

Features
- Transmission up to 5m
- Only 4-channel DSP per end
- Pre-FEC BER better than 1E-8
- Comprehensive breakthrough of traditional AEC and ACC solutions

Product Name	Rate	Reach	Max.Power Consumption	Part Number
800G OSFP Hybrid ACC+	850Gbps	5m	7W	Preliminary
1.6T OSFP224 Hybrid ACC+	1.6T	5m	13W	Preliminary

Optical Transceivers for Data Center/Telecom/MAN/5G

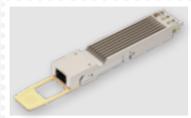### Optical Transceivers

• 1.6T Series

Features
- Data rate up to 1.6T
- Hot-pluggable OSFP224 form factor and NPO with EL-OSFP External Light Source form factor
- 8/16-channel full-duplex
- 8x 224Gbps PAM4 optical interface and electrical interface for 1.6T OSFP224
- 16x 106.25Gbps PAM4 optical interface and electrical interface for 1.6T NPO
- Compliant with IEEE 802.3CK and CMIS

Product Name	Wavelength	LD	PD	Max Distance or Length	Optical Interface	Max.Power Consumption	Part Number
1.6T NPO DR16	1310nm	SiPh	PIN	500m	N/A	13W	FS-1600G-NPO-DR16
1.6T OSFP224 2xDR4	1310nm	SiPh	PIN	500m	Dual MPO	TBD	Preliminary
1.6T OSFP224 2xFR4	2xCWDM4	SiPh	PIN	2km	Dual duplex LC	TBD	Preliminary

• 800G OSFP/QSFP-DD Series

Features
- Hot-pluggable QSFP-DD/OSFP form factor
- 8-channel full-duplex transceiver modules
- Data rate up to 850Gbps
- 8x 106.25Gbps PAM4 optical interface
- 8x 106.25Gbps or 4x225Gbps PAM4 electrical interface
- Compliant with QSFP-DD/OSFP MSA and CMIS

Product Name	Wavelength	LD	PD	Max Distance or Length	Optical Interface	Max.Power Consumption	Part Number
800G OSFP VR8	850nm	VCSEL	PIN	30m(OM3)/50m(OM4)	Dual MPO	13.5W	FEU-800S8M05C
800G OSFP SR8	850nm	VCSEL	PIN	70m(OM3)/100m(OM4)	Dual MPO	13.5W	FEU-800S8M10C
800G OSFP DR8	1310nm	SiPh	PIN	500m	Dual MPO	16W	FEU-8031M50C
800G OSFP DR8+	1310nm	SiPh	PIN	2km	Dual MPO	16W	FEU-8031K02C
800G OSFP DR8++	1310nm	SiPh	PIN	10km	Dual MPO	16W	FEU-8031K10C
800G OSFP 2xFR4	2xCWDM4	SiPh	PIN	2km	Dual Duplex LC	16W	FBU-800C4K02C
800G OSFP 2xLR4	2xCWDM4	SiPh	PIN	10km	Dual Duplex LC	16W	FBU-800C4K10C
800G OSFP FR8	LAN-WDM	EML	PIN	2km	Duplex LC	16W	FBU-800L8K02C
800G OSFP112 DR4	1310nm	SiPh	PIN	500m	MPO	TBD	Preliminary
800G OSFP112 FR4	CWDM4	EML	PIN	2km	Duplex LC	TBD	Preliminary
800G QSFP-DD VR8	850nm	VCSEL	PIN	30m(OM3)/50m(OM4)	MPO	13.5W	FEL-800S8M05C
800G QSFP-DD SR8	850nm	VCSEL	PIN	70m(OM3)/100m(OM4)	MPO	13.5W	FEL-800S8M10C
800G QSFP-DD DR8	1310nm	SiPh	PIN	500m	MPO	16W	FEL-8031M50C
800G QSFP-DD DR8+	1310nm	SiPh	PIN	2km	MPO	16W	FEL-8031K02C
800G QSFP-DD DR8++	1310nm	SiPh	PIN	10km	MPO	16W	FEL-8031K10C
800G QSFP-DD 2xFR4	2xCWDM4	SiPh	PIN	2km	Dual Duplex LC	16W	FBL-800C4K02C
800G QSFP-DD 2xLR4	2xCWDM4	SiPh	PIN	10km	Dual Duplex LC	16W	FBL-800C4K10C
800G QSFP-DD FR8	LAN-WDM	EML	PIN	2km	Duplex LC	16W	FBL-800C8K02C

•400G&200G QSFP-DD/QSFP56/QSFP112/OSFP-RHS Series

Features
- Hot-pluggable QSFP56/QSFP112/QSFP-DD/OSFP-RHS form factor
- 4/8-channel full-duplex transceiver modules
- Data rate up to 425Gbps
- Compliant with QSFP-DD/QSFP112/OSFP-RHS/QSFP56 MSA and CMIS

Product Name	Wavelength	LD	PD	Max Distance or Length	Optical Interface	Max.Power Consumption	Part Number
400G QSFP-DD SR8	850nm	VCSEL	PIN	70m(OM3)/100m(OM4)	MPO	8W	FEL-400S8M10C
400G QSFP-DD FR8	LWDM8	EML	PIN	2km	Duplex LC	12.5W	FBL-400C4xK02C
400G QSFP-DD LR8	LWDM8	EML	PIN	10km	Duplex LC	12.5W	FBL-400C4K10C
400G QSFP-DD PSM8	1310nm	EML/SiPh	PIN	2km/10km	MPO	11W	FEL-400P8K20C / FEL-400P8K10C
400G QSFP-DD xPSM8	1310nm	SiPh	PIN	20km	MPO	TBD	Preliminary
400G QSFP-DD 2x FR4	2x CWDM4	DML	PIN	2km	Dual Duplex LC	9W	FBL-400C4xK02C
400G QSFP-DD SR4	850nm	VCSEL	PIN	60m(OM3)/100m(OM4)	MPO	8W	FEL-400S4M10C
400G QSFP-DD FR4	CWDM4	EML	PIN	2km	Duplex LC	11W	FTL-400C4K02C
400G QSFP-DD LR4	CWDM4	EML	PIN	10km	Duplex LC	11W	FBL-400P4K10C
400G QSFP-DD ER4-30	Narrow LAN-WDM	EML	APD	30km	Duplex LC	12W	FBL-400P4K30C
400G QSFP-DD DR4	1310nm	SiPh	PIN	500m	MPO	10W	FUL-400P4M50C
400G QSFP-DD DR4+	1310nm	SiPh	PIN	2km	MPO	10W	FUL-400P4K02C
400G QSFP-DD DR4++	1310nm	SiPh	PIN	10km	MPO	10W	FUL-400P4K10C
400G QSFP112 VR4	850nm	VCSEL	PIN	30m(OM3)/50m(OM4)	MPO	8W	FEJ-400S4M05C
400G QSFP112 SR4	850nm	VCSEL	PIN	60m(OM3)/100m(OM4)	MPO	8W	FEJ-400S4M10C
400G QSFP112 DR4	1310nm	SiPh	PIN	500m	MPO	10W	FUJ-400P4M50C
400G QSFP112 DR4+	1310nm	SiPh	PIN	2km	MPO	10W	FUJ-400P4K02C
400G QSFP112 DR4++	1310nm	SiPh	PIN	10km	MPO	10W	FUJ-400P4K10C
400G QSFP112 FR4	CWDM4	EML	PIN	2km	Duplex LC	11W	FTJ-400C4K02C
400G QSFP112 LR4	CWDM4	EML	PIN	10km	Duplex LC	11W	FTJ-400C4K10C
400G OSFP-RHS VR4	850nm	VCSEL	PIN	30m(OM3)/50m(OM4)	MPO	8W	FER-400S4M05C
400G OSFP-RHS SR4	850nm	VCSEL	PIN	60m(OM3)/100m(OM4)	MPO	8W	FER-400S4M10C
400G OSFP-RHS DR4	1310nm	SiPh	PIN	500m	MPO	10W	FUR-400P4M50C
400G OSFP-RHS DR4+	1310nm	SiPh	PIN	2km	MPO	10W	FUR-400P4K02C
400G OSFP-RHS DR4++	1310nm	SiPh	PIN	10km	MPO	10W	FUR-400P4K10C
400G OSFP-RHS FR4	CWDM4	EML	PIN	2km	Duplex LC	11W	FTR-400C4K02C
400G OSFP-RHS LR4	CWDM4	EML	PIN	10km	Duplex LC	11W	FTR-400C4K10C
400G QSFP-DD PSM DWDM4	O-Band 200Gbps	SiPh	PIN	10km/30km with SOA	MPO	11W	FTG-4004K10C
200G QSFP56 SR4	850nm	VCSEL	PIN	70m(OM3)/100m(OM4)	MPO	5W	FEH-200S4M10C
200G QSFP56 SR2	850nm	VCSEL	PIN	60m(OM3)/100m(OM4)	MPO	5W	FEH-200S2M10C
200G QSFP56 DR4	1310nm	DML	PIN	500m	MPO	5.5W	FEH-200P4M50C
200G QSFP56 FR4	CWDM4	DML	PIN	2km	Duplex LC	6W	FBH-200C4K02C
200G QSFP56 LR4	CWDM4/LWDM4	DML	PIN	10km	Duplex LC	7W	FBH-200L4K10C
200G QSFP-DD SR8	850nm	VCSEL	PIN	70m(OM3)/100m(OM4)	MPO	4W	FEL-200S8M10C
200G QSFP-DD PSM8	1310nm	DML	PIN	2km/10km	MPO	6W	FEL-200P8K10C
200G QSFP-DD xPSM8	1310nm	DML	PIN	20km	MPO	6.5W	FEL-200P8K20C
200G QSFP-DD LR8	LWDM8	DML	PIN	10km	Duplex LC	7.5W	FBL-200L8K10C
200G QSFP-DD 2x CWDM4	2x CWDM4	DML	PIN	10km	Dual Duplex LC	7W	FEL-200Lxk02C
200G QSFP-DD SR4	850nm	VCSEL	PIN	70m(OM3)/100m(OM4)	MPO	5W	FEL-200S4M10C
200G QSFP-DD PSM4	1310nm	EML	PIN	500m	MPO	6.5W	FBH-200P4M50C
200G QSFP-DD FR4	CWDM4	DML	PIN	2km	Duplex LC	7W	FBH-200C4K02C
200G QSFP-DD LR4	LWDM4	EML	PIN	10km	Duplex LC	7W	FBL-200L4K10C
200G QSFP-DD ER4	LWDM4	EML	APD	40km	Duplex LC	9W	FBL-200L4K40C
200G QSFP-DD PSM DWDM4	O-Band 200GHz	SiPh	PIN	10km/30km with SOA	MPO	11W	FTG-2004K10C

100G QSFP28/SFP56-DD/SFP112 Series

Features
- Hot-pluggable QSFP28/SFP56-DD/SFP112 form factor
- 1/4-channel full-duplex transceiver modules
- Data rate up to 103.125/106.25/112.2Gbps
- 4x 25.78125 or 2x 53.125 or 1x106.25 Gbps interface
- EEPROM customized with I²C interface
- RoHS compatible (lead free)

Product Name	Wavelength	LD	PD	Max Distance or Length	Optical Interface	Max.Power Consumption	Part Number
100G QSFP28 SR4	850nm	VCSEL	PIN	70m(OM3)/100m(OM4)	MPO	2W	FEG-100S4M10C
100G QSFP28 eSR4	850nm	VCSEL	PIN	200m(OM3)/300m(OM4)	MPO	2W	FEG-100S4M300C
100G QSFP28 SWDM4	850nm~940nm	VCSEL	PIN	70m(OM3)/100m(OM4)	Duplex LC	3.5W	FEG-100B2M10C
100G QSFP28 PSM4/xPSM4	1310nm	DML	PIN	2km/10km	MPO	3.5W	FEG-100P4K10C
100G QSFP28 CLR4/CWDM4	CWDM4	DML	PIN	2km/10km	Duplex LC	3.5W	FBG-100CLK10C/FBG-100C4K10C
100G QSFP28 LR4	LWDM4	DML	PIN	10km/20km	Duplex LC	3.5W	FBG-100L4K20C
100G QSFP28 ER4 Lite	LWDM4	DML	APD	30km/40km	Duplex LC	3.5W	FBG-100L4K40C
100G QSFP28 ER4	LWDM4	EML	PIN+SOA	40km	Duplex LC	6W	FBG-100L4K40C
100G QSFP28 ZR4	LWDM4	EML	PIN+SOA	80km	Duplex LC	6W	FBG-100L4K80C/FBG-112L4K80C
100G QSFP28 BiDi ZR4	LWDM	EML	PIN+SOA	80km	Single LC	6.5W	FBQ-100D/U-ZR4C
100G QSFP28 SR1.2	850/910nm	VCSEL	PIN	70m(OM3)/100m(OM4)	Duplex LC	3W	FBG-100B2M15C
100G QSFP28 SR1	850nm	VCSEL	PIN	70m(OM3)/100m(OM4)	Duplex LC	2W	FBG-100S1M10C
100G QSFP28 DR1	1310nm	EML/SiPh	PIN	500m	Duplex LC	3.5W	FBG-10031KM50C
100G QSFP28 FR1	1310nm	EML/SiPh	PIN	2km	Duplex LC	3.5W	FBG-10031K02C
100G QSFP28 LR1	1310nm	EML/SiPh	PIN	20km	Duplex LC	4W	FBG-10031K20C
100G QSFP28 ER1-30	1310nm	EML	APD	30km	Duplex LC	4W	FBG-10031K40C
100G QSFP28 BiDi LR1	1271/1331nm	EML	PIN	10km	Single LC	4.5W	FBQ-100xxxx-LR1C
100G QSFP28 BiDi XLR1	1291/1311nm	EML	PIN	20km	Single LC	4.5W	FBQ-100xxxx-LR21C
100G QSFP28 BiDi ER1-30	1304/1309nm	EML	APD	30km	Single LC	4.5W	FBQ-100xxxx-LR31C
100G QSFP28 CWDM LR1	CWDM	EML	PIN	10km	Duplex LC	3.5W	FBQ-Cxx101-LR1C
100G QSFP28 PSM DWDM4	C-Band 100GHz	EML	PIN	10km/80km with EDFA	MPO	5W	FEG-100D4K40C
100G QSFP28 DWDM1	O-Band 200GHz	SiPh	PIN	10km/30km with SOA	Duplex LC	4W	FTG-100x4K25C
100G SFP56-DD SR2	850nm	VCSEL	PIN	100m	MPO	3W	Preliminary
100G SFP56-DD FR1	1310nm	EML	PIN	2km	Duplex LC	3.5W	FBK-10031K02C
100G SFP56-DD LR1-20	1310nm	EML	PIN	20km	Duplex LC	3.5W	FBK-10031K10C
100G SFP56-DD ER1-30	1310nm	EML	APD	30km	Duplex LC	3.5W	FBK-10031K30C
100G QSFP28 SR4 Rugged	850nm	VCSEL	PIN	70m(OM3)/100m(OM4)	MPO	2W	FEG-100S4M10C
100G QSFP28 PSM4 Rugged	1310nm	DML	PIN	20km	MPO	3.5W	FEG-100P4K10C-R
100G QSFP28 CWDM4 Rugged	CWDM4	DML	PIN	10km	Duplex LC	3.5W	FBG-100CLK10C-R

50G/40G/25G Series

Features
- Including SFP56 50G PAM4, QSFP+ 40G 4x10G NRZ and SFP28 25G NRZ
- Comply with SFP28/SFP56/QSFP+ specification
- Meets SFF-8402, SFF-8431 and SFF-8432 specifications
- The transmission rate is up to 10.3125Gbps~53.125Gbps
- Support EEPROM modify
- RoHS environmental standard

Product Name	Wavelength	LD	PD	Max Distance or Length	Optical Interface	Max.Power Consumption	Part Number
50G SFP56 SR	850nm	VCSEL	PIN	70m(OM3)/100m(OM4)	Duplex LC	2W	FBD-E5085M10C/FBD-E5085M10T
50G SFP56 LR	1310nm	EML	PIN	10km	Duplex LC	3W	FBD-E5031K10C/FBD-E5031K10T
50G SFP56 ER	1310nm	EML	APD	40km	Duplex LC	3W	FBD-E5031K40C/FBD-E5031K40T
50G SFP56 BiDi-20	1270/1330nm	EML	PIN	20km	Simplex LC	3W	FCD-D25xxxxK20C
50G SFP56 BiDi-30	1270/1330nm	EML	APD	30km	Simplex LC	3W	FCD-D25xxxxK30C
50G SFP56 DWDM	C-Band	EML	PIN	5km	Duplex LC	3W	FBD-N50DxxK06
40G QSFP+ SR4	850nm	VCSEL	PIN	70m(OM3)/100m(OM4)	MPO12	3W	FEF-E40S4M15C
40G QSFP+ PSM4	1310nm	DML	PIN	2km/10km	MPO12	3.5W	FEF-E40P4K10C
40G QSFP+ LR4	CWDM4	DML	PIN	2km/10km	Duplex LC	3.5W	FBF-E40C4K10C
40G QSFP+ ER4	CWDM4	DML	APD	40km	Duplex LC	3.5W	FBF-N40C4K40C
40G QSFP+ ZR4	LWDM4	EML	APD	80km	Duplex LC	6W	FBF-E40L4K80C
25G SFP28 SR	850nm	VCSEL	PIN	70m(OM3)/100m(OM4)	Duplex LC	1W	FBC-E2585M10C
25G SFP28 eSR	850nm	VCSEL	PIN	200m(OM3)/300m(OM4)	Duplex LC	1W	FBC-E2585M30C
25G SFP28 LR	1310nm	DML	PIN	10km/20km	Duplex LC	1.2W	FBC-D2531K20C
25G SFP28 ER	1310nm	EML	APD	40km	Duplex LC	1.8W	FBC-D2531K40C
25G SFP28 ZR	1310nm	EML	SOA+PIN	80km	Duplex LC	2.5W	FBC-D2531K80C
25G SFP28 BiDi-10	1270/1330nm	DML	PIN	10km	Simplex LC	1.5W	FCC-D25xxxxK10C
25G SFP28 BiDi-20	1270/1330nm	DML	PIN	20km	Simplex LC	1.8W	FCC-D25xxxxK20C
25G SFP28 BiDi-40	1270/1310nm	EML	APD	40km	Simplex LC	1.9W	FCC-D25xxxxK40C
25G SFP28 CWDM	1271~1371nm	DML	PIN	10km	Duplex LC	1.8W	FBC-D25CxxK10C
25G SFP28 CWDM	1271~1371nm	DML	APD	20km	Duplex LC	1.8W	FBC-D25CxxK20C
25G SFP28 CWDM	1411~1591nm	EML	APD	15km	Duplex LC	1.9W	FBC-D25CxxK15C
25G SFP28 LWDM	1269.23~1318.35nm	DML	PIN/APD	10km/20km	Duplex LC	1.8W	FBC-D25LxxK20C
25G SFP28 LWDM	1273.55~1309.14nm	EML	APD	40km	Duplex LC	2W	FBC-D25LxxK40C
25G SFP28 DWDM	C-Band	EML	PIN/APD	2km/10km	Duplex LC	2W	FBC-D25DxxK10C

16G/32G Fiber Channel Series

Features
- Hot-pluggable SFP
- Data rate 8/16/32G Fiber Channel
- Low power dissipation
- Single 3.3V power supply
- Built-in digital diagnostic functionality
- RoHS compliant (lead free)

Product Name	Wavelength	LD	PD	Max Distance or Length	Optical Interface	Max.Power Consumption	Part Number
32G SFP28 SR	850nm	VCSEL	PIN	70m(OM3)/100m(OM4)	Duplex LC	1W	FBC-F3285M10C
32G SFP28 eSR	850nm	VCSEL	PIN	200m(OM3)/300m(OM4)	Duplex LC	1W	FBC-F3285M30C
32G SFP28 LR	1310nm	DML	PIN	10km/20km	Duplex LC	1.2W	FBC-F3231K20C
32G SFP28 ER	1310nm	EML	APD	40km	Duplex LC	1.8W	FBC-F3231K40C
32G SFP28 DWDM	C-Band	DML	PIN/APD	10km/40km	Duplex LC	2W	FBC-F32LxxK40C
16G SFP+ SR	850nm	VCSEL	PIN	100m(OM3)/190m(OM4)	Duplex LC	1W	FBC-F1685M10C
16G SFP+ LR	1310nm	DML	PIN	10km/20km	Duplex LC	1.2W	FBC-F1631K20C
16G SFP+ ER	1310nm	EML	APD	40km	Duplex LC	1.5W	FBC-F1631K40C
16G SFP+ DWDM	C-Band	DML	PIN/APD	10km/40km	Duplex LC	1.8W	FBC-F16LxxK40C

1G-10G Optical Transceivers

Features
- 1G-10G Optica Transceivers
- FE/GE/10GE, 1/2/4/8/16GFC, SDH, OTU2e and CPRI
- Up to 30m-150km
- Common (850nm, 1310nm, 1550nm)
- BiDi (1270nm, 1310nm, 1330nm, 1490nm, 1550nm)
- xWDM (CWDM, DWDM and tunable)

Product	TX	Distance	Optical Interface
1G SFP Copper	N/A	100m	RJ45
10G SFP+ Copper	N/A	100m	RJ45
10G XFP	850nm	400m	Duplex LC
	1310nm	2/10/20/40km	
	1550nm	40/80/120km	
10G XFP BIDI	1270/1330nm	10/20/40/50km	Simplex LC
	1490/1550nm	80km	
10G XFP CWDM	1271~1611nm(20nm)	10/40km	Duplex LC
	1591~1611nm(20nm)	70km	
	1471~1571nm(20nm)	80km	
10G XFP DWDM	1528.77~1563.05nm(100GHz)	40/80km	Duplex LC
	1528.77~1563.05nm (50GHz)	80km	
	1528.77~1560.61nm(100GHz)	120km	
10G SFP+	850nm	400m	Duplex LC
	1310nm	220m/2/10/20/40km	
	1550nm	40/60/80km	
10G SFP+ BIDI	1270/1330nm	10/20/40/60km	Simplex LC
	1490/1550nm	80km	
10G SFP+ CWDM	1271~1611nm(20nm)	10/20/40km	Duplex LC
	1591~1611nm (20nm)	70km	
	1471~1571nm(20nm)	80km	
10G SFP+ DWDM	C18-C61100GHz	40/70/80km	Duplex LC
	CH18-CH6150GHz	80km	
10G SFP+ DWDM Tunable	C-band (50GHz)	80km	Duplex LC
2.5G SFP	850nm	300m/500m	Duplex LC
	1310nm	2/20/40km	
	1550nm	40/80km	
2.5G SFP BIDI	1310/1550nm	20km	Simplex LC
	1490/1550nm	40/80km	
2.5G CSFP	1310/1490nm	20km	Duplex LC
	1310/1550nm	20km	
2.5G SFP CWDM	1271~1611nm(20nm)	40km	Duplex LC
	1471~1611nm(20nm)	80km	
2.5G SFP DWDM	1528.77~1563.05nm(100GHz)	80km	Duplex LC
1G SFP	850nm	550m	Duplex LC
	1310nm	2/20/40km	
	1550nm	40/80/120km	
1G SFP BiDi	1310/1550nm	2/20/40/60km	Simplex LC/SC
	1310/1490nm	20/40km	
	1490/1550nm	80/120km	
1G CSFP	1310/1490nm	20/40km	Duplex LC
	1310/1550nm	20/40km	
1G SFP CWDM	1271~1611nm(20nm)	40/80km	Duplex LC
	1271~1431nm(20nm)	100km	
	1451~1611nm(20nm)	120km	
1G SFP DWDM	1528.77~1563.05nm (100GHz)	80/120km	Duplex LC

AOC (Active Optical Cables)

800G/400G/200G/100G/25G Active Optical Cables (AOC)

Features
- 1/4/8-channel full-duplex active optical cable
- 850nm VCSEL transmitter and PIN receiver
- Hot-pluggable SFP28/QSFP+/QSFP28/QSFP56/QSFP112/QSFP-DD/OSFP/OSFP-RHS MSA-compliant connectors
- OM3, OM4 or OM5 MMF optional
- EEPROM customized with I²C interface
- RoHS compatible (lead free)

Product Name	Wavelength	Max Distance or Length	Max.Power Consumption	Part Number
800G QSFP-DD AOC	850nm	1-100m	13W	FYL-800MxxxC
800G QSFP-DD to 2/4/8x Breakout AOC	850nm	1-100m	13W	FYLxx-800MxxxC
800G OSFP AOC	850nm	1-100m	13W	FYU-800MxxxC
800G OSFP to 2/4/8x Breakout AOC	850nm	1-100m	13W	FYUxx-800MxxxC
400G QSFP-DD AOC	850nm	1-100m	9W	FYL-400MxxxC
400G OSFP AOC	850nm	1-100m	9W	FYU-400MxxxC
400G QSFP-DD to 2/4/8x Breakout AOC	850nm	1-100m	9W (400G) / 5W (200G) / 4.5W (100G) / 2W (50G)	FYLxx-400MxxxC
400G QSFP112 AOC	850nm	1-100m	9W	FYJ-400MxxxC
400G QSFP112 to 2/4x Breakout AOC	850nm	1-100m	9W	FYJxx-400MxxxC
400G OSFP-RHS AOC	850nm	1-100m	9W	FYR-400MxxxC
400G OSFP-RHS to 2/4x Breakout AOC	850nm	1-100m	9W	FYRxx-400MxxxC
200G QSFP-DD AOC	850nm	1-100m	4W	FYL-200MxxxC
200G QSFP-DD to 2/4/8x AOC	850nm	1-100m	4W(200G)/2W(100G)/1.5W(50G) / 1W(25G)	FYLxx-200MxxxC
200G QSFP56 AOC	850nm	1-100m	5W	FYH-200MxxxC
200G QSFP56 to 2/4x AOC	850nm	1-100m	5W(200G) / 4.5W(100G) /2W(50G)	FYHxx-200MxxxC
100G QSFP28 AOC	850nm	1-100m/300m	2W	FYG-100MxxxC
100G QSFP28 to 2/4x AOC	850nm	1-100m/300m	2W (100G) /1.5W (50G)/1W (25G)	FYGxx-100MxxxCE
100G SFP56-DD AOC	850nm	1-100m	Preliminary	
100G SFP56-DD to 2x AOC	850nm	1-100m	3W	Preliminary
25G SFP28 AOC	850nm	1-100m/300m	1-100m1W	FYC-M25Mxxxx

Hardened Active Optical Cables

Features
- Tailored for 5G Open RAN fronthaul in industrial scenarios.
- Supports CPRI/eCPRI protocols.
- Transmission range: 100m to 20km.
- Replaces some gray module fiber direct-drive applications.

Product Name	Fiber Type	Length (Customizable)	From Factor	TX	RX	Max.Power Consumption	Temp(°C)	P/N
10G SFP+ HAOC	MMF	300m	SFP+ SFP+	850nm VCSEL	PIN	0.8W/0.8W	-40~+85	FYB-E10MxxxTH
25G SFP28 HAOC	MMF	70m/100m	SFP28 SFP28	850nm VCSEL	PIN	1W/1W	-40~+85	FYC-D25MxxxTH
100G QSFP28 HAOC	MMF	70m/100m	QSFP28 QSFP28	850nm VCSEL	PIN	2W/2W	-40~+85	FYG-100MxxxTH
100G QSFP28 to 4x25G SFP28 HAOC	MMF	1m~100m	QSFP28 4xSFP28	850nm VCSEL	PIN	2W/4x1W	-40~+85	FYG4C-100MxxxTH

DAC
(Direct Attached Cables)

800G/400G/200G/100G/25G Direct Attach Cables (DAC)

Features
- Hot-pluggable MSA-compliant DAC cables
- Data rate up to 25.78-850Gbps
- 24/26/28/30 AWG optional
- ACC/PCC BER better than 1E-13
- Support immersion liquid cooling
- Commercial case temperature range of 0℃ to 70℃
- RoHS compatible (lead free)

Product Name	Length	AWG	Part Number
PCC Series			
800G QSFP-DD PCC	0.5-2m	30/26	FWL-800xxxxxC
800G QSFP-DD to 2/4/8x Breakout PCC	0.5-2m	30/26	FWLxx-800xxxxxC
800G QSFP PCC	0.5-2m	30/26	FWU2J-800xxxxxC
800G QSFP to 2/4/8x Breakout PCC	0.5-2m	30/26	FWU2Jxx-800xxxxxC
400G QSFP-DD PCC	3m	30/28/26	FWL-400xxxxxC
400G QSFP-DD to 2/4/8x Breakout PCC	3m	30/28/26	FWLxx-400xxxxxC
400G QSFP112 PCC	0.5-2m	30/26	FWU-400xxxxxC
400G QSFP112 to 2/4/8x Breakout PCC	0.5-2m	30/26	FWUxx-400xxxxxC
400G QSFP-RHS PCC	0.5-2m	30/26	FWR-400xxxxxC
400G QSFP-RHS to 2/4/8x Breakout PCC	0.5-2m	30m/2km/3m	FWRxx-400xxxxxC
200G QSFP-DD PCC	0.5-5m	30/26	FWLxx-20030xxxC
200G QSFP-DD to 2/4/8x Breakout PCC	0.5-5m	30/26	FWLxx-20030xxxC
200G QSFP56 PCC	0.5-3m	30/26	FWH-20030xxxC
200G QSFP56 to 2/4x Breakout PCC	0.5-3m	30/26	FWLxx-20030xxxC
100G QSFP28 PCC	0.5-5m	30/26	FWG-10030xxxC
100G QSFP28 to 2/4x Breakout PCC	0.5-5m	30/26	FWGxx-10030xxxC
25G SFP28 PCC	0.5-5m	30/26	FWLxx-20030xxxC
ACC Series			
1.6T QSFP224 ACC	0.5-3m	30/28/26	Prelimniary
800G QSFP-DD ACC	5m	30/28/26	FZL-800xxxxxC
800G QSFP-DD to 2/4/8x Breakout ACC	5m	30/28/26	FZLxx-800xxxxxC
800G QSFP ACC	5m	30/28/26	FZU-800xxxxxC
800G QSFP to 2/4/8x Breakout ACC	5m	30/28/26	FZUxx-800xxxxxC
400G QSFP-DD ACC	0.5-7m	30/28/26	FZL-400xxxxxC
400G QSFP-DD to 2/4/8x Breakout ACC	0.5-7m	30/28/26	FZLxx-400xxxxxC
400G QSFP112 ACC	0.5-5m	30/26	FZU-400xxxxxC
400G QSFP112 to 2/4/8x Breakout ACC	0.5-5m	30/26	FZUxx-400xxxxxC
400G QSFP-RHS ACC	0.5-5m	30/26	FZR-400xxxxxC
400G QSFP-RHS to 2/4/8x Breakout ACC	0.5-5m	30/26	FZRxx-400xxxxxC
200G QSFP-DD ACC	0.5-9m	30/26	FZL-200xxxxxC
200G QSFP-DD to 2/4/8x Breakout ACC	0.5-9m	30/26	FZLxx-200xxxxxC
200G QSFP56 ACC	0.5-7m	30/26	FZH-200xxxxxC
200G QSFP56 to 2/4x Breakout ACC	0.5-7m	30/26	FZHxx-200xxxxxC

Electrical Loopback Modules & Transceiver Checkers

Electrical Loopback Modules

Features
- Hot-pluggable MSA-compliant active electrical loopback modules
- Data rate up to 25.78125-425Gbps
- Low power consumption
- Commercial case operating temperature range of 0℃ to 70℃
- Single 3.3V power supply
- RoHS compliant

Product Name	Application	Modulation	Number of Channels	Max. Data Rate oer Channel	Max. Power Consumption	Part Number
800G QSFP Loopback	800GE	PAM4	8	106.25Gbps	7W	FLPU-800
800G QSFP-DD Loopback	800GE	PAM4	8	106.25Gbps	7W	FLPL-800
400G QSFP-DD Loopback	400GE	PAM4	8	53.125Gbps	5W	FLPL-400
200G QSFP56 Loopback	200GE	PAM4	4	53.125Gbps	2.5W	FLPH-200
200G QSFP-DD Loopback	200GE	NRZ	8	25.78125Gbps	5W	FLPL-200
100G QSFP28 Loopback	100GE	NRZ	4	25.78125Gbps	1W	FLPG-100
25G SFP28 Loopback	25GE	NRZ	1	25.78125Gbps	1W	FLPC-E25

Transceiver Checkers

Features
- Support 8.5-100Gbps bit error rate test
- Updating and maintaining compatible codes from cloud database
- Friendly Graphic User Interface (GUI)
- Robust and slim design with compact and portable full-metal case
- Support working independently without PC
- RoHS compliant

Product Name	Port Type	Compatible Module Types	BERT Rates	Power Supply	GUI Operating Environment	Part Number
800G QSFP-DD+QSFP-RHS Checker	1xQSFP-DD 1xQSFP-RHS	800G QSFP112-DD/400G QSFP112 400G QSFP56-DD/200G QSFP56 800G QSFP-RHS/400G QSFP-RHS	8x100G PAM4/4x100G PAM4 8x50G PAM4/4x50G PAM4	12V DC	Win XP/7/8/10	FCKL-800
800G QSFP-DD+QSFP Checker	1xQSFP-DD 1xQSFP	800G QSFP112-DD/400G QSFP112 400G QSFP56-DD/200G QSFP56 800G QSFP/400G QSFP	8x100G PAM4/4x100G PAM4 8x50G PAM4/4x50G PAM4	12V DC	Win XP/7/8/10	FCKU-800
400G QSFP112+QSFP-RHS Checker	1xQSFP112 1xQSFP-RHS	400G QSFP112 200G QSFP56 400G QSFP-RHS	4x100G PAM4 4x50G PAM4	12V DC	Win XP/7/8/10	FCKU-800
400G QSFP-DD Checker	1x QSFP-DD	400G QSFP56-DD/200G QSFP28-DD 200G QSFP56/100G QSFP28	8x 50G PAM4/8x 25G NRZ 4x 50G PAM4/4x 25G NRZ	12V DC	Win XP/7/8/10	FCKL-400
200G QSFP56 Checker	1x QSFP56	200G QSFP56 100G QSFP28	4x 50G PAM4 4x 25G NRZ	12V DC	Win XP/7/8/10	FCKH-200
200G QSFP-DD Checker	1x QSFP-DD	200G QSFP28-DD 100G QSFP28	8x 25G NRZ 4x 25G NRZ	12V DC	Win XP/7/8/10	FCKL-200
40G/100G QSFP Checker	1x QSFP+ (Port-1) 1x QSFP28 (Port-2)	112G QSFP28/100G QSFP28 40G QSFP+	4x 28G NRZ/4x 25G NRZ 4x 10G NRZ	12V DC	Win XP/7/8/10	FCKG-112
25G SFP28 Checker	2x SFP28	28G SFP28/25G SFP28 10G SFP+	1x 28G NRZ/1x 25G NRZ 1x 10G NRZ	12V DC	Win XP/7/8/10	FCKC-F28
10G SFP+ Checker	1x SFP+ TR (Port-1) 1x SFP+ Tx (Port-2)	8.5/10G SFP+	1x 10G NRZ 1x 8.5G NRZ	5V DC	Win XP/7/8/10	FCKB-E10

Immersion Cooling Active Optical Cable (AOC)

Features
- Submersible version AOC
- Hot-pluggable SFP/SFP28/QSFP+/QSFP28/QSFP56/QSFP-DD/QSFP112/OSFP MSA-compliant form factor Compliant with CMIS, SFF-8636 and SFF-8665
- Data rate up to 10.31-800Gbps
- Case operating temperature range from 0 to 60℃

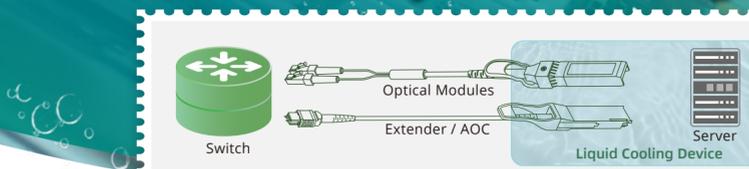| Product Name	Standard	LD	PD	Reach	Max. Power Consumption(W)
800G QSFP-DD AOC	800GBase-SR8	850nmVCSEL	PIN	1-100m	15
800G QSFP AOC	800GBase-SR8	850nmVCSEL	PIN	1-100m	15
400G QSFP-RHS AOC	400GBase-SR8	850nmVCSEL	PIN	1-100m	10
400G QSFP112 AOC	400GBase-SR4	850nmVCSEL	PIN	1-100m	10
200G QSFP56 AOC	100G/200GBase-SR4	850nm VCSEL	PIN	1-100m	5
100G QSFP28 AOC	100GBase-SR4	850nmVCSEL	PIN	1-100m/300m	2
40G QSFP+AOC	40GBase-SR4	850nmVCSEL	PIN	1-300m/400m	1.5
25G SFP28 AOC	25GBase-SR	850nmVCSEL	PIN	1-100m	1
10G SFP+ AOC	10GBase-SR	850nmVCSEL	PIN	1-100m/400m	0.8

Immersion Cooling Extender

Features
- Significant CAPEX savings for immersion liquid-cooling data centers
- Support 10G/25G/40G/100G/200G/800G transceivers or AOC with different package type flat cage
- 26/30AWG twinax copper cable with length up to 50cm
- Simple deployment and fast connection
- Ultra-high reliability with simple structure
- Commercial case temperature range of 0℃ to 60℃

Product Name	Package Type	AWG	Length	Temperature°C
Immersible 800G QSFP-DD Extender	QSFP-DD to QSFP-DD	26/30AWG	Up to 30cm	0~60
Immersible 800G QSFP Extender	QSFP to QSFP	26/30AWG	Up to 30cm	0~60
Immersible 800G QSFP/QSFP-DD Extender	QSFP to QSFP-DD	26/30AWG	Up to 30cm	0~60
Immersible 400G QSFP-DD Extender	QSFP-DD to QSFP-DD	26/30AWG	Up to 50cm	0~60
Immersible 400G QSFP112 Extender	QSFP112 to QSFP112	26/30AWG	Up to 50cm	0~60
Immersible 400G QSFP-RHS Extener	QSFP-RHS to QSFP-RHS	26/30AWG	Up to 50cm	0~60
Immersible 200G QSFP56 Extender	QSFP56 to QSFP56	26/30AWG	Up to 50cm	0~60
Immersible 200G QSFP-DD Extender	QSFP-DD to QSFP-DD	26/30AWG	Up to 50cm	0~60
Immersible 100G QSFP28 Extender	QSFP28 to QSFP28	26/30AWG	Up to 50cm	0~60
Immersible 100G SFP112 Extender	SFP112 to SFP112	26/30AWG	Up to 50cm	0~60
Immersible 40G QSFP+ Extender	QSFP+ to QSFP+	26/30AWG	Up to 50cm	0~60
Immersible 25G SFP28/50G SFP56 Extender	SFP to SFP	26/30AWG	Up to 50cm	0~60

Immersion Liquid Cooling Optics

Switch / Optical Modules / Extender / AOC / Server / Liquid Cooling Device

Immersion Cooling Optical Transceivers

Features
- Hot-pluggable MSA-compliant pigtailed transceiver assemblies
- Data rate up to 10.315-800Gbps
- Support immersion liquid cooling
- Customized pigtails available
- Commercial case temperature range of 0℃ to 60℃
- RoHS compliant(lead free)

Product Name	Center Wavelength	Max Distance or Length	Optical Interface	Max.Power Consumption	Part Number
800G QSFP-DD SR8	850nm	100m	MPO	13.5W	FQL-80058M10xxx
800G QSFP SR8	850nm	100m	MPO/Dual MPO	13.5W	FQU-80058M10xxx
800G QSFP DR8 SiPh	1310nm	500m	MPO/Dual MPO	16W	FUU-80058M10xxx
400G QSFP112 SR4	850nm	100m	MPO	8W	FQJ-4005R4M10xxx
400G QSFP112 DR4 SiPh	1310nm	500m	MPO	10W	FUJ-400P4M50Oxxx
400G QSFP-RHS SR4	850nm	100m	MPO	8W	FQR-4005R4M10xxx
400G QSFP-RHS DR4 SiPh	1310nm	500m	MPO	10W	FQR-400P4K10xxx
200G QSFP56 SR4	850nm	100m	MPO	5W	FQH-20054M10xxx
100G QSFP28 SR4	850nm	100m/300m	MPO	2W	FQG-10054M10xxx FQG-10054M30xxx
100G QSFP28 DR1(EML)	1310nm	500m/2km/10km	Dual LC	3.5W	FQG-1005MK10xxx
40G QSFP+ SR4	850nm	70m/100m	MPO	2W	FQF-M4085M07xxx FQF-M4085M10xxx
25G SFP28 SR	850nm	100m/300m	MPO	1W	FMC-M2585M10xxx FMC-M2585M30xxx
25G SFP28 LR	1310nm	10km	Dual LC	1.8W	FMC-M2531K10xxx

Immersion Cooling Direct Attach Cable (DAC)

Features
- Special design for liquid immersion environment
- Data rate up to 10-850Gbp
- Compatible to SFP28/QSFP28/QSFP56/QSFP-DD/QSFP112/OSFP MSA
- Copper link length up to 7m
- Operating Temperature: 0~ 70℃

Product Name	Rate	Reach	Temperature°C
800G QSFP-DD DAC	850Gbps	2m	0~70
800G QSFP-DD ACC	850Gbps	5m	0~70
800G QSFP DAC	850Gbps	2m	0~70
800G QSFP ACC	850Gbps	5m	0~70
400G QSFP-DD DAC	425Gbps	3m	0~70
400G QSFP-RHS DAC	425Gbps	3m	0~70
400G QSFP112 DAC	425Gbps	3m	0~70
200G QSFP56 DAC	212.5Gbps	3m	0~70
200G QSFP-DD DAC	206.25Gbps	3m	0~70
100G QSFP28 DAC	103.12Gbps	5m	0~70
40G QSFP+ DAC	41.25Gbps	5m	0~70
25G SFP28 DAC	25.78125Gbps	5m	0~70
10G SFP+ DAC	10.52Gbps	7m	0~70

SDI Optical Interconnect Products
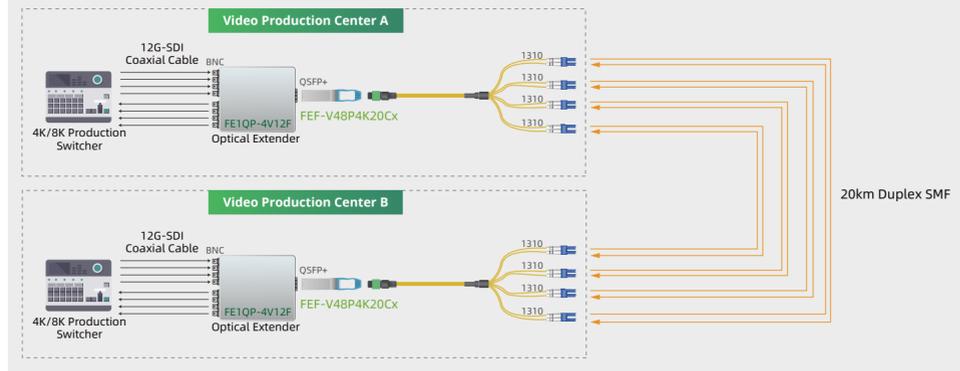
3G/12G/48G SDI Optical Extenders

Features
- Support 4K/8K video over fiber transmission up to 40km
- Compliant with SMPTE SD/HD/3G/6G/12G-SDI standards
- Tx&Rx, Rx-only, and Tx-only optional
- SDI signal connecting status indicated by LED
- All-metal housing for superior EMI performance
- Commercial case temperature range of -10℃ to +55℃
- RoHS compliant

Product Name	Application	Max. Distance	Center Wavelength	Optical Interface	Electrical Interface	Part Number
16x3G-SDI over Fiber, 2xGE, WebManaged(Tx/Rx)	16x3G-SDI	20km/40km/60km	CWDM	FC/LC	16x BNC Input/Output	FS-SDI-E-16*3G-TX/RX-IP-NMS
48G SDI PSM Optical Extender (TRx w/ CDR)	4x 12G-SDI	20km	N/A	1x QSFP+ (TRx)	4x BNC Input Output	FE10P-4V12F
4x12G SDI CWDM Optical Extender (Tx/Rx)	4x 12G-SDI	20km	CWDM4	Simplex FC	4x BNC Input/Output	FE1FC-4V12T FE1FC-4V12R
2x12G SDI Optical Extender (TRx)	2x 12G-SDI	20km	N/A	2x SFP+ (TRx)	2x BNC Input 2x BNC Output	FE2SP-2V12F
1x12G SDI Optical Extender (TRx)	1x 12G-SDI	20km	N/A	1x SFP+ (TRx)	1x BNC Input 1x BNC Output	FE1SP-1V12F
1x12G SDI Optical Extender (Tx)	1x 12G-SDI	20km	N/A	1x SFP+ (Tx)	1x BNC Input	FE1SP-1V12T
1x12G SDI Optical Extender (Rx)	1x 12G-SDI	20km	N/A	1x SFP+ (Rx)	1x BNC Output	FE1SP-1V12R
4x3G SDI Optical Extender (Tx)	4x 3G-SDI	40km	N/A	2x SFP (2Tx)	4x BNC Input	FE4SP-4V3GT
4x3G SDI Optical Extender (Rx)	4x 3G-SDI	40km	N/A	2x SFP (2Rx)	4x BNC Output	FE4SP-4V3GR

Application

Video Production Center A
Video Production Center B

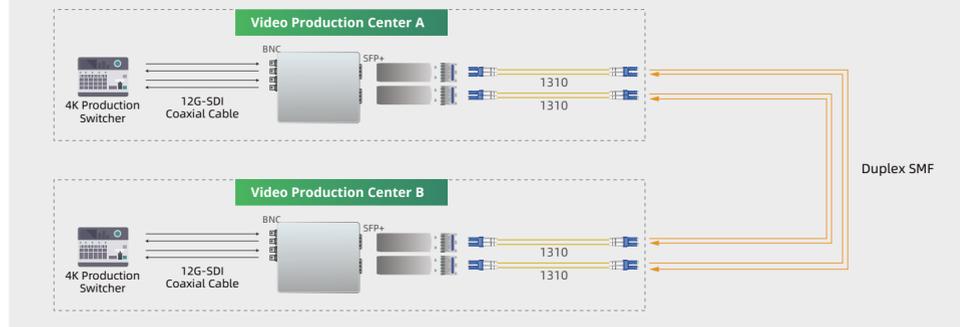20km Duplex SMF

3G/12G/48G SDI Optical Modules

Features
- Hot-pluggable SFP/SFP+/QSFP+ form factor
- 1/2/4-channel video optical modules
- Data rate up to 2.97-47.52Gbps
- Tx&Rx, Rx-only, and Tx-only optional
- MSA and Non-MSA pinout optional
- Commercial case temperature range of 0℃ to 70℃
- RoHS compliant

Product Name	Application	Max. Distance	Center Wavelength	LD	PD	Optical Interface	MSA/Non-MSA Pinout	Part Number
48G SDI QSFP+ PSM4 TRx	4x 12G-SDI	20km	1310nm	DFB	PIN	MPO12 (8F)	MSA Non-MSA	FEF-V48P4K20CM FEF-V48P4K20CN
48G SDI QSFP+ PSM CWDM4 TRx	4x 12G-SDI	10km	CWDM4	DFB	PIN	MPO12 (8F)	MSA Non-MSA	FEF-V48C4K10CM FEF-V48C4K10CN
12G SDI SFP+ TRx	1x 12G-SDI	20km	1310nm	DFB	PIN	Dual LC	MSA Non-MSA	FBB-V1231K20CM FBB-V1231K20CN
12G SDI SFP+ BiDi TRx	1x 12G-SDI	20km	1270/1330nm	DFB	PIN	Single LC	MSA Non-MSA	FCB-V122733K20CM FCB-V122733K20CN
12G SDI SFP+ CWDM TRx	1x 12G-SDI	10km	1271-1571nm	DFB	PIN	Dual LC	MSA Non-MSA	FBB-V12CxxK10CM FBB-V12CxxK10CN
12G SDI DWDM O-BAND	1x 12G-SDI	30km	O-Band	DFB	APD	Dual LC	MSA Non-MSA	Preliminary
12G SDI SFP+ 2Tx	2x 12G-SDI	20km	1310nm	DFB	N/A	Dual LC	Non-MSA	FJB-V123131K20N
12G SDI SFP+ CWDM 2Tx	2x 12G-SDI	10km	1271-1571nm 1271-1571nm	DFB	N/A	Dual LC	Non-MSA	FJB-V12xxxxK10CN
12G SDI SFP+ 2Rx	2x 12G-SDI	20km	N/A	N/A	PIN	Dual LC	Non-MSA	FHB-V12K20CN
12G SDI SFP+ Tx	1x 12G-SDI	20km	1310nm	DFB	N/A	Single LC	MSA Non-MSA	FGB-V1231K20CM FGB-V1231K20CN
12G SDI SFP+ CWDM Tx	1x 12G-SDI	10km	1271-1571nm	DFB	N/A	Single LC	MSA Non-MSA	FGB-V12CxxK10CM FGB-V12CxxK10CN
12G SDI SFP+ Rx	1x 12G-SDI	20km	N/A	DFB	PIN	Single LC	MSA Non-MSA	FFB-V12K20CM FFB-V12K20CN
3G SDI SFP TRx	1x 3G-SDI	2km/20km/40km/80km	1310nm 1550nm	DFB	PIN/APD	Dual LC	MSA	FBA-V3GxxKxxCM
3G SDI SFP CWDM TRx	1x 3G-SDI	40km/80km	1271-1611nm	DFB	PIN/APD	Dual LC	MSA	FBA-V3GCxxK40CM FBA-V3GCxxK80CM
3G SDI SFP 2Tx	2x 3G-SDI	2km/20km/40km	1310nm 1550nm	DFB	N/A	Dual LC	Non-MSA	FJA-V3GxxxxKxxCN
3G SDI SFP CWDM 2Tx	2x 3G-SDI	40km	1271-1611nm 1271-1611nm	DFB	N/A	Dual LC	Non-MSA	FJA-V3GxxxxK40CN
3G SDI SFP 2Rx	2x 3G-SDI	N/A	N/A	N/A	PIN	Dual LC	Non-MSA	FHA-V3GKxxCN
3G SDI SFP Tx	1x 3G-SDI	2km/20km/40km	1310nm 1550nm	DFB	N/A	Single LC	MSA Non-MSA	FGA-V3G31K20CM FGA-V3GxxKxxCN
3G SDI SFP CWDM Tx	1x 3G-SDI	40km	1271-1611nm	DFB	N/A	Single LC	Non-MSA	FGA-V3GCxxK40CN
3G SDI SFP Rx	1x 3G-SDI	2km/20km/40km	N/A	N/A	PIN	Single LC	MSA Non-MSA	FFA-V3GKxxCM FFA-V3GKxxCN

Application

Video Production Center A
Video Production Center B

Duplex SMF

DCI DWDM & Coherent Subsystem

DCI BOX & Coherent DCO Optical Transceivers

2U DCI BOX Coherent Subsystem Up to 12.8T

Features
- Unified 2U rack integrated Optical layer and electrical layer boardsaccess
- ROADM function supported up to 9 dimensions
- Flexible configuration of 100G/200G/400G rates on line-side CFP2/QSFP-DD interfaces
- Supports Web,CLI(telnet and console)and NetRiver managements based on SNMP
- Simple operation and maintenance based on SDN with open APIs to be quickly automated and integrated in any IT operating environment for rapid service deployment

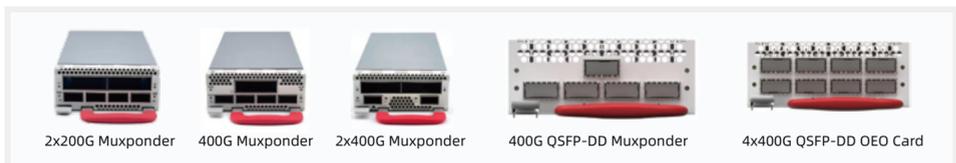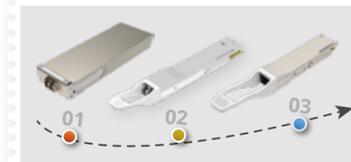### 1U 6.4T DCI BOX Coherent Subsystem Up to 6.4T

Features
- Single or mixed connection of 100G services on client-side QSFP28 interfaces
- Intelligent B/S architecture for open network
- Supports Web and NetRiver managements based on SNMP
- Simple operation and maintenance based on SDN with open APIs to be quickly automated and integrated in any IT operating environment for rapid service deployment

Parameters	2U 12.8T DCI BOX	1U 6.4T DCI BOX
Client-side Rate	400GE/100GE/OUT4 or 10GE/OC-192/STM-64/8GFC/10GFC/16GFC	100GE/OUT4
Line-side Rate	100G/200G/400G	100G/200G/400G
RODAM Dimension	9	9
Power Consumption	300W	350W
Dimensions(WxHxD)	440mmx88mmx420mm	482.6mmx44.5mmx400mm
Power Supply	AC(90V to 264V, 50/60Hz),DC(-36V to +60V)	AC(100V to 240V, 50Hz to 60Hz),DC(36V to 72V)

Optical Transponder

2x200G Muxponder | 400G Muxponder | 2x400G Muxponder | 400G QSFP-DD Muxponder | 4x400G QSFP-DD OEO Card

Access Signal Rate	Client-side Interface	Line-side Interface	Power Consumption
100G/OTU4	4x100G QSP28	2x200G CFP2 DCO	<85W
100G/OTU4	4x100G QSFP28	1x400G CFP2 DCO	<65W
100G/OTU4	4x100G QSFP28	1x400G QSFP-DD DCO	<65W
400GE	4x400G QSFP-DD	4x400G QSFP-DD DCO	<120W
400GE	2x400G QSFP-DD	2x400G CFP2 DCO	<75W

Coherent DCO DWDM Transceivers

Product Items	200G CFP2 DCO	400G CFP2 DCO	400G QSFP-DD DCO ZR/ZR+	preliminary 800G CFP2 DCO
Modulation	200G PM-16QAM	400G PM-16QAM	400G PM-16QAM	800G PS-16QAM
RX OSNR Tolerance	16.5dB/0.1nm	23dB/0.1nm	26dB/0.1nm	26dB/0.1nm
Reach	800km	400km	120km/600km	120km/400km
Power onsumptiion	23W	26W	16.5W	38W

Non-Coherent DWDM Equipment & Color ZR+/X Optical Transceivers

1U Non-Coherent DWDM Subsystem

- 1U rack adopts modular design
- Supports 800G incoherent high-bandwidth DWDM transmission
- Supports NMS network card and network management
- Redundant modular dual-power design and modular fan

Color ZR+ 100G QSFP28 PSM DWDM4

- C-band EML DWDM from channel 13 to 60
- 4-channel full-duplex
- Transmission data rate up to 26Gbps per channel
- Up to 10km and to 80km with external EDFA
- Low power consumption<5W
- MPO(APC 8-degree) Connector

Color X 100G QSFP28 DWDM1

- 100G PAM4 silicon photonic MZ modulation technology
- Electrical port side uses 4X 25G NRZ with built-in FEC-KP4
- DWDM O-BAND 200GHZ, 16 channels
- Up to 10km transmission and to 30km with external SOA
- Power consumption<3.5W
- Duplex LC Connector

Color X 400G QSFP-DD PSM4 DWDM4

- 4x100G PAM4 silicon photonic MZ modulation technology
- DWDM O-BAND 200GHZ, 33 channels
- Up to 10km Transmission and to 30km with external SOA
- MPO Connector

Color X 800G OSFP PSM DWDM4 (preliminary)

- 4x224G PAM4 silicon photonic MZ modulation technology
- MPO Connector