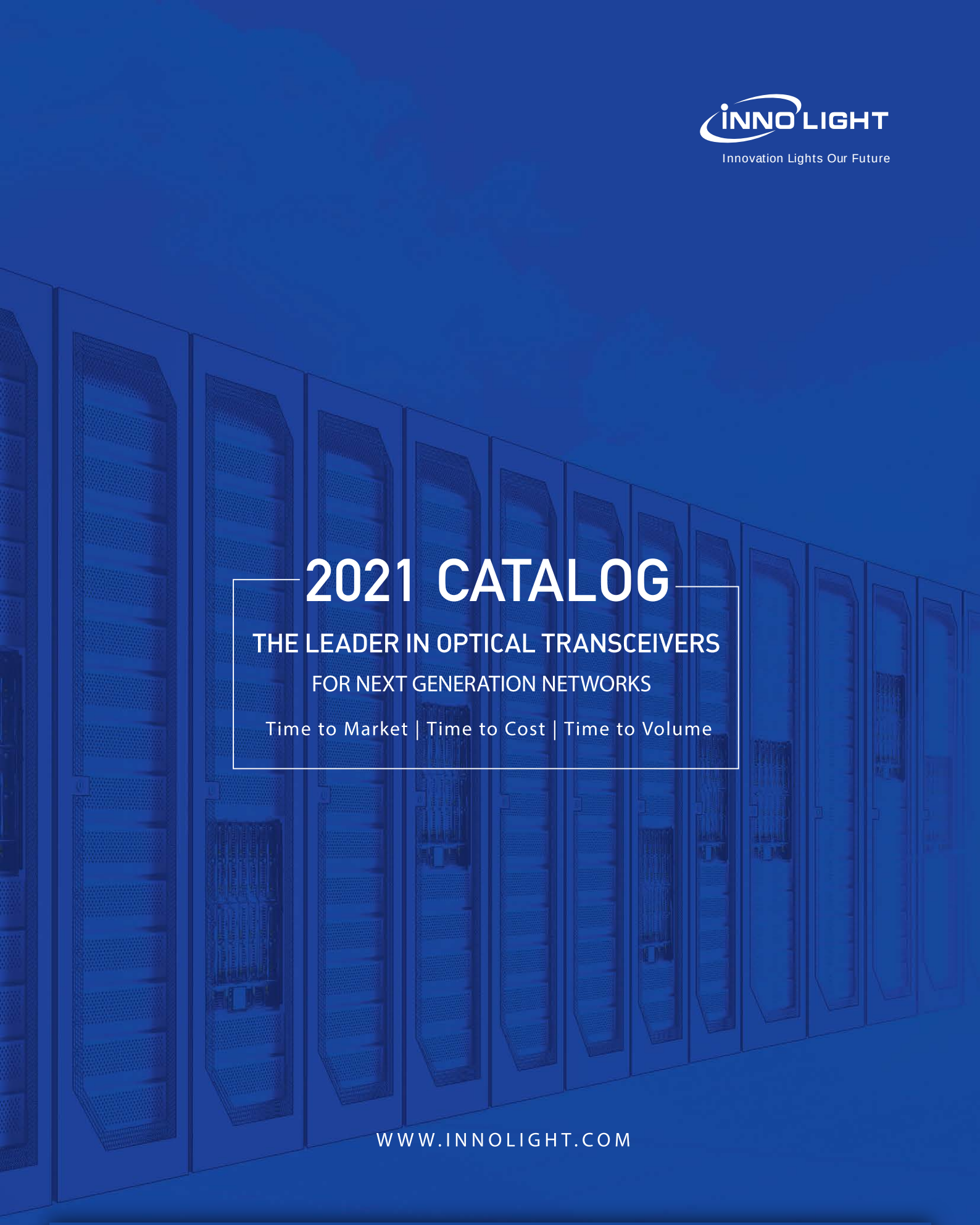
INNOLIGHT

Innovation Lights Our Future



2021 CATALOG

THE LEADER IN OPTICAL TRANSCEIVERS

FOR NEXT GENERATION NETWORKS

Time to Market | Time to Cost | Time to Volume

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サンインスツルメント

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For Intra and Inter Data Center Connectivity

Most Complete Product Portfolio of 40G, 100G, 200G, 400G and 800G in the Industry

QSFP+ | QSFP28 | QSFP56 | OSFP | QSFP-DD

InnoLight Product Catalogue

	P/N	Product Description		Data Rate (Gb/s)	TX	RX	Transmitter Power (dBm)[1]		Receiver Power (dBm)[1]		Max Power Consumption (W)	Reach	Temperature (deg C)
							Min	Max	Min	Max			
QSFP+	TR-QQ85S-N00	QSFP+ SR4		40G	850nm VCSEL	PIN	-7.6	1.0	-9.5	2.4	1.5	100m	0~70
	TR-QQ85X-N00	QSFP+ eSR4		40G	850nm VCSEL	PIN	-7.3	1.0	-9.9	2.4	1.5	300m	0~70
	TR-QQ13T-N00	QSFP+ IR4		40G	DFB CWDM	PIN	-7.0	2.3	-11.7	2.3	3.5	2km	0~70
	TR-QQ13L-N00	QSFP+ LR4		40G	DFB CWDM	PIN	-7.0	2.3	-13.7	2.3	3.5	10km	0~70
	TR-QQ13E-N00	QSFP+ ER4		40G	DFB CWDM	APD	-2.7	4.5	-21.2	-4.5	3.5	40km	0~70
	TR-QQ13Y-N00	QSFP+ LX4	MMF	40G	DFB CWDM	PIN	-5.0	3.5	-7.0	3.5	3.5	150m	0~70
			SMF				-7.0	2.3	-11.7	2.3	3.5	2km	0~70
	TR-IQ13C-N00	QSFP+ PSM IR4		40G	1310nm DFB	PIN	-5.5	1.5	-11.5	1.5	3.5	1.4km	0~70
	TR-IQ13L-N00	QSFP+ PSM LR4		40G	1310nm DFB	PIN	-5.5	1.5	-12.6	1.5	3.5	10km	0~70
	TF-QQxxx-N00	QSFP+ AOC		40G	850nm VCSEL	PIN	N/A	N/A	N/A	N/A	1.5 (each QSFP+)	3~100m	0~70
	TF-QPQXxxx-N00	QSFP+ to 4x SFP+ AOC		40G	850nm VCSEL	PIN	N/A	N/A	N/A	N/A	1.5 (QSFP+) 0.8 (each SFP+)	3~100m	0~70
SFP28	TR-PY85S-N00	SFP28 SR		25G	850nm VCSEL	PIN	-8.4	2.4	-10.3	2.4	1.0	100m	0~70
	TR-PY13L-N00	SFP28 LR		25G	1310nm DFB	PIN	-7.0	2.0	-13.3	2.0	1.0	10km	0~70
	TR-PY13E-N00	SFP28 ER		25G	1310nm EML	APD	-3.0	6.0	-21.0	4.0	1.5	40km	0~70
	TF-PYxxx-N00	SFP28 AOC		25G	850nm VCSEL	PIN	N/A	N/A	N/A	N/A	1.0 (each SFP28)	3~100m	0~70

	P/N	Product Description	Data Rate (Gb/s)	TX	RX	Transmitter Power (dBm)[1]		Receiver Power (dBm)[1]		Max Power Consumption (W)	Reach	Temperature (deg C)
						Min	Max	Min	Max			
QSFP28	TR-FC85S-N00	QSFP28 SR4	100G	850nm VCSEL	PIN	-8.4	2.4	-10.3	2.4	3.5	100m	0~70
	TR-FC13T-N00	QSFP28 CWDM4	100G	DFB CWDM	PIN	-6.5	2.5	-11.5	2.5	3.5	2km	0~70
	TR-FC13X-N00	QSFP28 eCWDM4	100G	DFB CWDM	PIN	-6.5	2.5	-13.0	2.5	3.5	10km	0~70
	TR-VC13T-N00	QSFP28 PSM4	100G	1310nm DFB	PIN	-5.5	2.0	-10.2	2.0	3.5	2km	0~70
	TP-VC13Txxxx-N00	QSFP28 PSM4 Pigtail	100G	1310nm DFB	PIN	-5.5	2.0	-10.2	2.0	3.5	2km	0~70
	TR-FC13R-N00	QSFP28 LR4 Ethernet	100G	1296-1309nm LWDM DFB	PIN	-4.3	4.5	-10.6	4.5	4.0	10km	0~70
	TR-FC13L-NSN	QSFP28 LR4 Dual Rates[2]	100G/112G	1296-1309nm LWDM EML	PIN	-2.5	2.9	-8.8	2.9	4.5	10km	0~70
	TR-FC13D-N00	QSFP28 ER4 Lite	100G	1296-1309nm LWDM EML	APD	-2.5	6.5	-16.65	-3.5	4.5	30km	0~70
						-2.5	6.5	-20.5	-3.5	4.5	40km (w/ FEC)	0~70
	TR-FC13D-NSN	QSFP28 ER4 Lite Dual Rates[3]	100G/112G	1296-1309nm LWDM EML	APD	-0.7	6.5	-14.85	-3.5	4.5	30km	0~70
						-0.7	6.5	-18.7	-3.5	4.5	40km (w/ FEC)	0~70
	TF-FCxxx-N00	QSFP28 AOC	100G	850nm VCSEL	PIN	N/A	N/A	N/A	N/A	2.5 (each QSFP28)	3~100m	0~70
	TF-FPQYxxx-N00	QSFP28 to 4x SFP28 AOC	100G	850nm VCSEL	PIN	N/A	N/A	N/A	N/A	2.5 (QSFP28) 1.0 (each SFP28)	3~100m	0~70
QSFP28 Single Lambda	TR-ZC13H-N00	QSFP28 DR1 (PAM4)	100G	1310nm EML	PIN	-2.9	4.0	-5.9	4.0	4.0	500m	0~70
	TR-ZC13T-N00	QSFP28 FR1 (PAM4)	100G	1310nm EML	PIN	-2.4	4.0	-6.4	4.5	4.0	2km	0~70
	TR-ZC13L-N00	QSFP28 LR1 (PAM4)	100G	1310nm EML	PIN	-1.4	4.5	-7.7	4.5	4.0	10km	0~70
QSFP56	T-FX4FNS-N00	QSFP56 SR4	200G	850nm VCSEL	PIN	-6.5	4.0	-8.4	4.0	5.5	100m	0~70
	T-FX4FNT-H00	QSFP56 FR4	200G	EML CWDM4	PIN	-4.2	4.7	-8.2	4.7	6.5	2km	10~60
OSFP	T-OS8FNS-N00	OSFP SR8	400G	850nm VCSEL	PIN	-6.0	4.0	-7.9	4.0	11.0	100m	0~70
	T-OC8FNT-H00	OSFP 2x FR4	400G	EML CWDM	PIN	-4.2	4.7	-8.2	4.7	12.0	2km	20~60
	T-OP4CNH-N00	QSFP DR4	400G	1310nm EML	PIN	-2.9	4.0	-5.9	4.0	12.0	500m	0~70
	T-OP4CNT-N00	OSFP DR4+	400G	1310nm EML	PIN	-2.4	4.0	-6.4	4.5	12.0	2km	0~70
	T-OS4CNT-N00	OSFP FR4	400G	EML CWDM4	PIN	-3.3	3.5	-7.3	3.5	12.0	2km	0~70
	T-OS4CNL-N00	OSFP LR4	400G	EML CWDM4	PIN	-1.4	4.5	-7.7	4.5	12.0	10km	0~70
	C-OS8FNMxxx-N00	OSFP AOC	400G	850nm VCSEL	PIN	N/A	N/A	N/A	N/A	11.0 (each OSFP)	3~100m	0~70
	T-OM8CNT-H00	OSFP 2x FR4	800G	EML CWDM	PIN	-3.3	3.5	-7.3	3.5	16	2km	20~60
	T-OP8CNH-N00	OSFP DR8	800G	1310nm EML	PIN	-2.9	4.0	-5.9	4.0	16	500m	0~70
	T-OP8CNT-N00	OSFP DR8+	800G	1310nm EML	PIN	-2.4	4.0	-6.4	4.5	16	2km	0~70
	C-OS8CNSxxx-N00	OSFP AOC	800G	Siph Based	Siph Based	N/A	N/A	N/A	N/A	16	100m	0~70
QSFP-DD	T-DQ8FNS-N00	QSFP-DD SR8	400G	850nm VCSEL	PIN	-6.5	4.0	-7.9	4.0	10.5	100m	0~70
	T-DP4CNH-N00	QSFP-DD DR4	400G	1310nm EML	PIN	-2.9	4.0	-5.9	4.0	10.5	500m	0~70
	T-DP4CNT-N00	QSFP-DD DR4+	400G	1310nm EML	PIN	-2.4	4.0	-6.4	4.5	10.5	2km	0~70
	T-DQ4CNT-N00	QSFP-DD FR4	400G	EML CWDM4	PIN	-3.3	3.5	-7.3	3.5	10.5	2km	0~70
	T-DQ4CNL-N00	QSFP-DD LR4	400G	EML CWDM4	PIN	-1.4	4.5	-7.7	4.5	11	10km	0~70
	T-DQ4CNE-N00	QSFP-DD ER4	400G	EML LWDM4	APD	0.4	6.5	-16.5	-2.5	12	30km 40km (w/ FEC)	0~70
	C-DQ8FNMxxx-H00	QSFP-DD AOC	400G	850nm VCSEL	PIN	N/A	N/A	N/A	N/A	10.5	3~100m	0~70
	T-DP8CNT-N00	QSFP-DD DR8+	800G	1310nm EML	PIN	-2.4	4.0	-6.4	4.5	16	2km	0~70
	C-DQ8CNSxxx-N00	QSFP-DD AOC	800G	Siph Based	Siph Based	N/A	N/A	N/A	N/A	16	100m	0~70

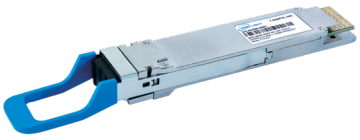
1. Transmitter and receiver powers are in average, unless specified otherwise.
2. Specification shown is for OTN OTU4 application. The specification for Ethernet application is the same as the specification of TR-FC13R-N00.
3. Specification shown is for OTN OTU4 application. The specification for Ethernet application is the same as the specification of TR-FC13D-N00.

For 5G Wireless Interconnect Fronthual, Midhual and Backhual

Optimized 25G, 50G, 100G and 200G Optical Solutions

SFP28

QSFP28



QSFP-DD

InnoLight Product Catalogue

	P/N	Product Description	Data Rate (Gb/s)	TX	RX	Transmitter Power (dBm)[1]		Receiver Power (dBm)[1]		Max Power Consumption (W)	Reach	Temperature (deg C)
						Min	Max	Min	Max			
SFP28	TR-PY85S-V00	SFP28 SR IT	25G	850nm VCSEL	PIN	-8.4	2.4	-10.3	2.4	1.0	100m	-40~85
	TR-PY13H-V00	SFP28 LR Lite IT	25G	1310nm DFB	PIN	-7.0	2.0	-10.5	2.0	1.2	300m	-40~85
	TR-PY13L-V00	SFP28 LR IT	25G	1310nm DFB	PIN	-7.0	2.0	-13.3	2.0	1.2	10km	-40~85
	TR-DYxxL-V00	SFP28 LR BiDi IT	25G	1270/1330nm DFB	PIN	-7.0	2.0	-13.3	2.0	1.0	10km	-40~85
	TR-LYxxL-V00	SFP28 LR CWDM IT	25G	DFB CWDM	PIN	-2.0	6.0	-13.3	2.5	1.5		-40~85
	TR-RYxxL-V00	SFP28 LR LWDM IT	25G	DFB LWDM	PIN	-3.0	3.0	-15.3	3.0	1.5	10km	-40~85
	TR-RYxxI-V00	SFP28 IR LWDM IT	25G	EML LWDM	APD	-2.0	6.0	-21.0	-4.0	1.8	20km	-40~85
	TR-GYxxI-V00	SFP28 IR DWDM IT	25G	EML LWDM	APD	-2.0	6.0	-21.0	-4.0	1.8	20km	-40~85
	TR-PY13E-V00	SFP28 ER IT	25G	1310nm EML	APD	-3.0	6.0	-21.0	-4.0	1.8	40km	-40~85
QSFP28	TR-FC85S-E00	QSFP28 SR4 (CPRI)	100G	850nm VCSEL	PIN	-8.4	2.4	-10.3	2.4	2.5	100m	-10~75
	TR-FC13X-R00	QSFP28 eCWDM4 ET	100G	DFB CWDM	PIN	-6.5	2.5	-13.0	2.5	4.5	10km	-20~85
	TR-FC13R-N00	QSFP28 LR4 Ethernet	100G	1296-1309nm LWDM DFB	PIN	-4.3	4.5	-10.6	4.5	4.0	10km	0~70
	TR-FC13D-N00	QSFP28 ER4 Lite	100G	1296-1309nm LWDM EML	APD	-2.5	6.5	-16.65	-3.5	4.5	30km	0~70
						-2.5	6.5	-20.5	-3.5	4.5	40km (w/ FEC)	0~70
QSFP28 Single Lambda	TR-ZF13L-N00	QSFP28 LR (PAM4)	50G	1310nm EML	PIN	-4.5	4.2	-10.3	4.2	4.5	10km	0~70
	TR-ZF13E-N00	QSFP28 ER (PAM4)	50G	1310nm EML	APD	0.4	6.6	-17.6	-3.4	3.5	40km	0~70
	TR-BFxxL-N00	QSFP28 LR BIDI (PAM4)	50G	1310nm EML	PIN	-4.5	4.2	-10.8	4.2	3.5	10km	0~70
	TR-BFxxE-N00	QSFP28 LR BIDI (PAM4)	50G	1310nm EML	APD	-0.4	6.6	-17.6	3.4	3.5	40km	0~70
QSFP-DD	T-DQ4FNL-N00	QSFP-DD LR4	200G	EML LWDM	PIN	-3.4	5.3	-9.7	5.3	12.0	10km	0~70
	T-DQ4FNE-N00	QSFP-DD ER4	200G	EML LWDM	APD	0.0	6.5	-15.5	-3.0	12.0	40km	0~70

1. Transmitter and receiver powers are in average, unless specified otherwise.

For Metro, DCI and 5G Backhaul Coherent Transmission

Newly Launched 100G, 200G and 400G Coherent Optical Transceivers

CFP

CFP2

OSFP

QSFP-DD

InnoLight Product Catalogue

	P/N	Product Description	Client Side	Line Side Modulation Format	Line Side FEC mode	Typical OSNR Sen (dB)	Transmitter Power (dBm)		Receiver Power (dBm)		Max Power Consumption (W)	Reach	Case Temperature (deg C)
							Min	Max	Min	Max			
CFP DCO	CT-CPS100SMRTA00	100G CFP DCO, C Band, 50GHz Grid, 191.3-196.1GHz	OTU4: OTL4.4 / OTL4.10 100GE: CAUI4 / CAUI10	DP-QPSK	SDFEC	12	-15.0	2.0	-24.0	5.0	28.0	MR	0~70
	CT-CPS200SMRTA00	200G CFP DCO, C Band, 50GHz Grid, 191.3-196.1GHz	OTU4: OTL4.4 100GE: CAUI4z	DP-16QAM	SDFEC	21	-15.0	2.0	-20.0	5.0	32.0	MR	0~70
CFP2 DCO	CT-CTS100SMRTA00	100G CFP2 DCO, C Band, 50GHz Grid, 191.3-196.1GHz	OTU4 / 100GE	DP-QPSK	OFEC / OpenZR+	11.5	-10.0	5.0	-24.0	5.0	21.0	MR / ZR+	0~70
	CT-CTS200SMRTA00	200G CFP2 DCO, C Band, 50GHz Grid, 191.3-196.1GHz	2*OTU4 / 2*100GE / 200GE	DP-16QAM	OFEC / OpenZR+	19	-10.0	5.0	-20.0	5.0	23.0	MR / ZR+	0~70
	CT-CTS200SLHTA00	200G CFP2 DCO, C Band, 50GHz Grid, 191.3-196.1GHz	2*OTU4/ 2*100GE	DP-QPSK	OFEC / OpenZR+	14	-10.0	5.0	-20.0	5.0	25.0	LH	0~70
	CT-CTS400SZRTA00	400G CFP2 DCO, C Band, 75GHz Grid, 191.3-196.1GHz	4*OTU4 / 4*100GE / 2*200GE / 400GE	DP-16QAM	CFEC	25	-10.0	5.0	-12.0	5.0	22.0	ZR	0~70
	CT-CTS400SZPTA00	400G CFP2 DCO, C Band, 75GHz Grid, 191.3-196.1GHz	4*OTU4 / 4*100GE / 2*200GE / 400GE	DP-16QAM	OFEC / OpenZR+	23	-10.0	5.0	-12.0	5.0	24.0	ZR+	0~70
OSFP DCO	CT-OSS400SZRTA00	400G OSFP DCO, C Band, 75GHz Grid, 191.3-196.1GHz	4*100GE / 400GE	DP-16QAM	CFEC	25	-10.0	6.0	-12.0	5.0	20.0	ZR	0~70
	CT-OSS400SZPTA00	400G OSFP DCO, C Band, 75GHz Grid, 191.3-196.1GHz	4*100GE / 400GE	DP-16QAM	OpenZR+	23	-10.0	6.0	-12.0	5.0	22.0	ZR+	0~70
QSFP-DD DCO	CT-QDS100SMRTA00	100G QSFP-DD DCO, C Band, 50GHz Grid, 191.3-196.1GHz	100GE	DP-QPSK	OpenZR+	11.5	-10.0	6.0	-20.0	5.0	16.0	ZR+	0~70
	CT-QDS400SZRTA00	400G QSFP-DD DCO, C Band, 75GHz Grid, 191.3-196.1GHz	4*100GE / 400GE	DP-16QAM	CFEC	25	-10.0	6.0	-12.0	5.0	20.0	ZR	0~70

INNO LIGHT

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