

Oplink TPD7XGKZRxxG DWDM 80km SFP+ Transceivers

molex

The TPD1XGKZRxxG is an enhanced small form factor pluggable (SFP+) fiber optic transceiver with digital diagnostics monitoring functionality (DDM). Supporting Ethernet and Fiber Channel standards with dense wavelength division multiplexing (DWDM) wavelength makes it ideally suited for high capacity data-com and storage area network applications. DDM functionality (alarm and warning features) is integrated into the design via an I2C serial interface per the Multi-Source Agreement (MSA) SFF-8472, Rev. 11.3



Each transceiver utilizes an electro absorption modulator integrated laser (EML) with an operating wavelength with 100GHz (0.8nm) spacing per the ITU-grid. The transceiver supports data rates ranging from 11.3Gbps down to 8Gbps. It provides an excellent solution for data transmission at DWDM wavelength over up to 80km single mode fiber. The low power consumption and excellent EMI performance enable system design with high port density. The product is RoHS compliant and is designed and tested in accordance with industry safety standards. The transceiver is Class Laser product per U.S. FDA/CDRH and international IEC-60825 standards.

The TPD1XGKZRxxG transceiver connects to standard 20-pad SFP+ connectors for hot plug capability. This allows the system designer to make configuration changes or maintenance by simply plugging in different transceivers without removing the power supply from the host system. The transmitter and receiver DATA interfaces are internally AC-coupled. LV-TTL Transmitter Disable control input and Loss of Signal (LOS) output interfaces are also provided. The transceiver has bail-type latch, which offers an easy and convenient way to release the modules. The latch is compliant with the SFP MSA. The transceiver operates from a single +3.3V power supply over an operating case temperature range of 5°C to +70°C (commercial), or -5°C to +85°C (extended) or -40°C to +85°C (industrial). The housing is made of metal for EMI immunity.

Features and Advantages

Temperature-stabilized DWDM EML transmitter

Transmission distance up to 80km (SM fiber)

Low power consumption

Wide operating temperature range

Compliant to SFP+ Electrical MSA SFF-8431

Compliant to SFP+ Mechanical MSA SFF-8432

Digital Diagnostics Monitoring (DDM) through Serial Interfaces comply with SFF-8472, Rev. 11.3.

RoHS 6/6 compliant

Laser Class 1 IEC/CDRH compliant

Oplink TPD7XGKZRxxG DWDM 80km SFP+ Transceivers



Absolute Maximum Ratings

Parameters		Symbol	Min	Max	Units
Storage Temperature Range		T_{ST}	-40	+85	°C
Case Operating Temperature ¹	Commercial	T_{OP}	-5	+70	°C
	Extended		-5	+85	
	Industrial		-40	+85	
Operating Relative Humidity ²		RH	0	85	%
Supply Voltage Range		V_{CC}	-0.5	+3.6	V

¹ Measured on top side of SFP+ module at the front center vent hole of the cage

² Non condensing

Transmitter Performance Characteristics (Over Operating Case Temperature, VCC =3.13 to 3.47V)

Parameter	Symbol	Min	Typ	Max	Units
Data Rate	B	-	10.3125	-	Gb/s
Center Wavelength ¹	λ_C	See Ordering Information Table			nm
Average Optical Output Power	P_{avg}	0	-	+4	dBm
Extinction Ratio	ER	9	-	-	dB
Relative Intensity Noise	RIN	-	-	-128	dB/Hz
Side Mode Suppression Ratio	SMSR	30	-	-	dB
Optical Return Loss Tolerance	-	-	-	-21	dB
Optical Output Eye	GR-253-CORE, IEEE 802.3ae and ITU-T G.959				

¹ BOL: +/-0.05nm from ITU grid; EOL: +/-0.1nm from ITU grid.

Receiver Performance Characteristics (Over Operating Case Temperature, VCC =3.13 to 3.47V)

Parameter	Symbol	Min	Typ	Max	Units
Data Rate	B	-	10.3125	-	Gb/s
Wavelength of Operation	λ	1530	-	1565	nm
Receiver Sensitivity@10.3125Gb/s 1	P_{min_BB}	-	-	-24	dBm
Receiver Sensitivity with 80km Fiber @10.3125Gb/s 1	P_{min_Fiber}	-	-	-21	dBm
Maximum Input Power (10-12 BER)	P_{max}	-7	-	-	dBm
Receiver Reflectance	-	-	-	-27	dB
LOS Hysteresis	-	0.5	-	-	dB
LOS Thresholds	Increasing Light Input	P_{los+}	-	-25	dBm
	Decreasing Light Input	P_{los-}	-38	-	

¹ Specified with BER <1x10⁻¹² and PRBS 2⁻³¹-1.

Note: The specified characteristics are met within the recommended range of operation. Unless otherwise noted typical data are quoted at nominal voltage and +25°C ambient temperature.

Laser Safety

All transceivers are Class 1 Laser products per FDA/CDRH and IEC-60825 standards. They must be operated under specified operating conditions.



Oplink TPD7XGKZRxxG DWDM 80km SFP+ Transceivers



Transmitter Electrical Characteristics (Over Operating Case Temperature, VCC =3.13 to 3.47V)

Parameter	Symbol	Min	Typ	Max	Units
Differential Input Impedance	Z_{in}	-	100	-	Ω
Differential Input Voltage Swing	$V_{PP-DIFF}$	180	-	700	mV
Input High Voltage (TX Disable) ¹	V_{IH}	2.0	-	V _{CC}	V
Input LOW Voltage (TX Disable) ¹	V_{IL}	0	-	0.8	V
Output High Voltage (TX Fault) ²	VOH	2.0	-	V _{CC} +0.3	V
Output LOW Voltage (TX Fault) ²	VOL	0	-	0.8	V

¹ There is an internal 4.7 to 10 k Ω pull-up resistor to V_{CC}T

² Open collector compatible, 4.7 to 10 k Ω pull-up resistor to V_{CC} (Host Supply Voltage)

Receiver Electrical Characteristics (Over Operating Case Temperature, V_{CC} =3.13 to 3.47V)

Parameter	Symbol	Min	Typ	Max	Units
Differential Output Impedance	Z_{out}	-	100	-	Ω
Differential Output Swing	$V_{PP-DIFF}$	300	-	850	mV
Output Rise and Fall time (20% to 80%)	t_{RH} , t_{FH}	28	-	-	ps
Output HIGH Voltage (LOS) ¹	V_{OH}	V _{CC} -1.3	-	V _{CC} +0.3	V
Output Low Voltage (LOS) ¹	V_{OL}	0	-	0.8	V

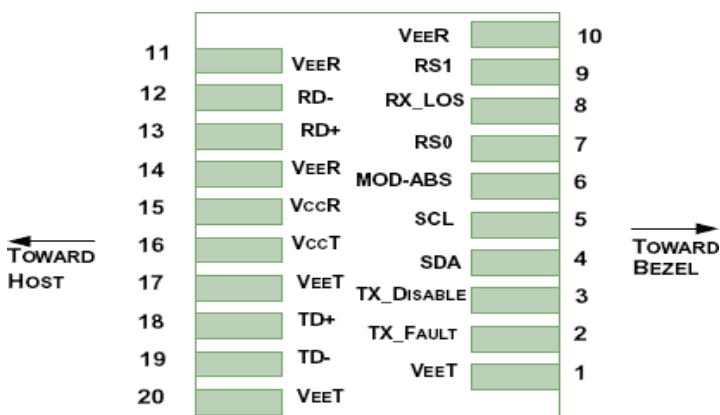
¹ Open collector compatible, 4.7 to 10 k Ω pull-up resistor to V_{CC} (Host Supply Voltage)

Electrical Power Supply Characteristics (Over Operating Case Temperature, V_{CC} =3.13 to 3.47V)

Parameter	Symbol	Min	Typ	Max	Units
Power Supply Voltage	V _{CC}	3.13	3.30	3.47	V
DC Common Mode Voltage	V _{CM}	0	-	3.6	V
Power Consumption	P _w	-	1.2	-	W

Note: The specified characteristics are met within the recommended range of operation. Unless otherwise noted typical data are quoted at nominal voltage and +25°C ambient temperature.

Connector Pin-out



Oplink TPD7XGKZRxxG DWDM 80km SFP+ Transceivers



Electrical Pin Definition

PIN	Logic	Symbol	Name / Description
1	-	VeeT	Module Transmitter Ground
2	LVTTTL-0	TX_Fault	Module Transmitter Fault
3	LVTTTL-I	TX_Disable	Transmitter Disable; Turns off transmitter laser output
4	LVTTTL-I/O	SDA	2-Wire Serial Interface Data Line
5	LVTTTL-I/O	SCL	2-Wire Serial Interface Clock
6	-	MOD-ABS	Module Definition, Grounded in the module
7	LVTTTL-I	RS0	No function implemented
8	LVTTTL-0	RX_LOS	Receiver Loss of Signal Indication
9	LVTTTL-I	RS1	No function implemented
10	-	VeeR	Module Receiver Ground
11	-	VeeR	Module Receiver Ground
12	CML-0	RD-	Receiver Inverted Data Output
13	CML-0	RD+	Receiver Non-Inverted Data Output
14	-	VeeR	Module Receiver Ground
15	-	VccR	Module Receiver 3.3V Supply
16	-	VccT	Module Transmitter 3.3V Supply
17	-	VeeT	Module Transmitter Ground
18	CML-I	TD+	Transmitter Non-Inverted Data Input
19	CML-I	TD-	Transmitter Inverted Data Input
20	-	VeeT	Module Transmitter Ground

Application Notes

Electrical interface: All signal interfaces are compliant with the SFP+ MSA specification. The high speed DATA interface is differential AC-coupled internally and can be directly connected to a 3.3V SERDES IC. All low speed control and sense output signals are open collector TTL compatible and should be pulled up with a 4.7 – 10 k Ω resistor on the host board.

Loss of Signal (LOS): The Loss of Signal circuit monitors the level of the incoming optical signal and generates logic HIGH when an insufficient photocurrent is produced.

TX Fault: The output indicates LOW when the transmitter is operating normally and HIGH with a laser fault including laser end-of-life. TX Fault is an open collector/drain output and should be pulled up with a 4.7 – 10 k Ω resistor on the host board.

TX Disable: When the TX Disable pin is at logic HIGH, the transmitter optical output is disabled. The laser is also disabled if this line is left floating, as it is pulled high inside the transceiver.

Serial Identification and Monitoring: The module definition of SFP is indicated by the MOD_ABS pin and the 2-wire serial interface. Upon power up, the 2-wire interface appears as NC (no connection), and MOD_ABS is TTL LOW. When the host system detects this condition, it activates the serial protocol (standard two-wire I2C serial interface) and generates the serial clock signal (SCL). The positive edge clocks data into the EEPROM segments of the device that are not write protected, and the negative edge clocks data from the device. The serial data signal (SDA) is for serial data transfer. The host uses SDA in conjunction with SCL to mark the start and end of serial protocol activation. The supported monitoring functions are temperature, voltage, bias current, transmitter power, average receiver signal, all alarms and warnings, and software monitoring of TX Fault/LOS. The device is internally calibrated. The data transfer protocol and the details of the mandatory and vendor specific data structures are defined in the SFP MSA, and SFF-8472, Rev. 11.3.

Power supply and grounding: The power supply line should be well-filtered. All power supply bypass capacitors should be as close to the transceiver module as possible.

Oplink TPD7XGKZRxxG DWDM 80km SFP+ Transceivers



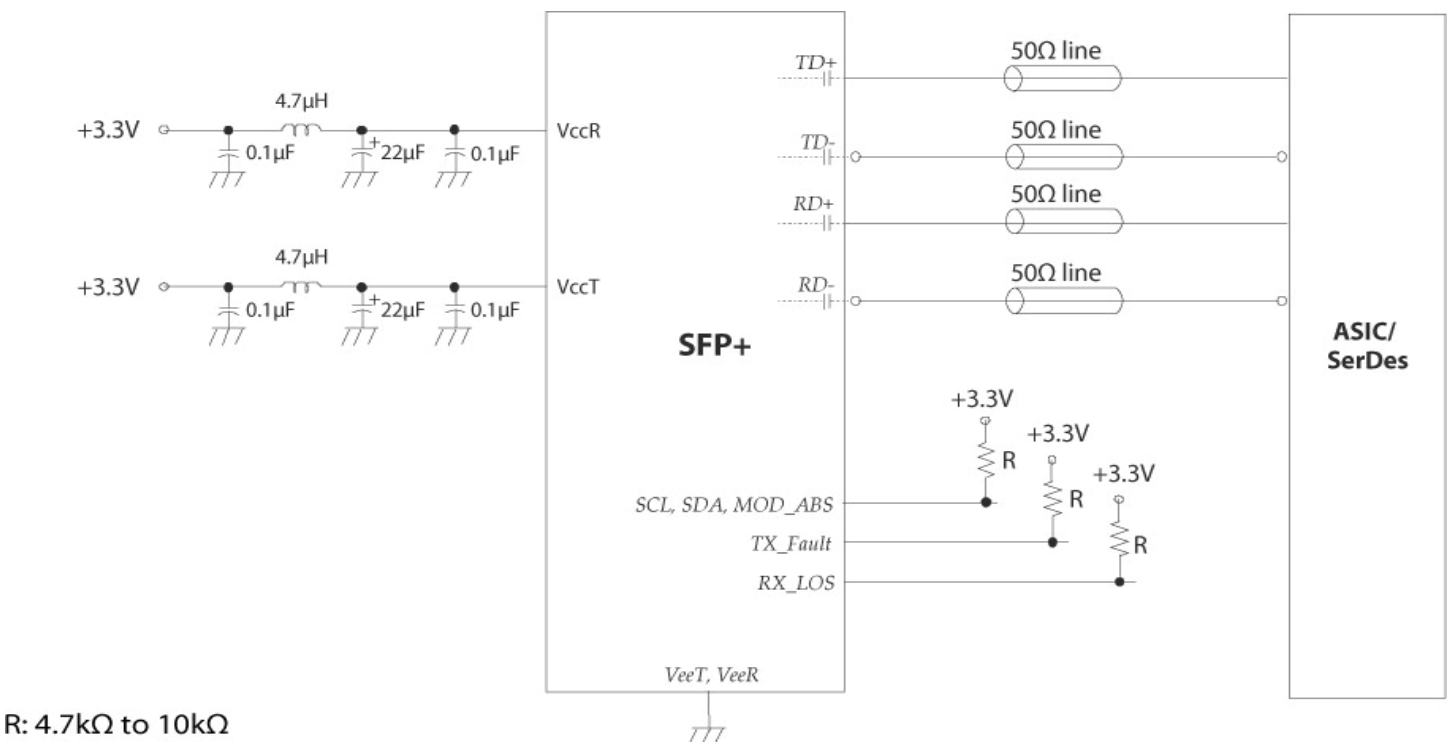
Interfacing the Transceivers

Communication is via a serial 2-wire serial interface. As described in the document SFF-8472 (REV. 11.3) there are two distinct address spaces:

Base Address A0(hex)	Content
Byte Address	
0 – 95	Serial Transceiver ID as defined in SFP MSA
96 – 127	OPLINK Specific
128 – 255	Reserved

Application Schematics

Byte Address	Content
0 - 55	Alarm & Warnings thresholds & limits
56 - 95	External calibration constants (not used)
96 – 119	Values from real time diagnostic monitoring
120 – 127	Not used
128 – 247	Customer specific, writable area
248 - 255	Not used



R: 4.7kΩ to 10kΩ

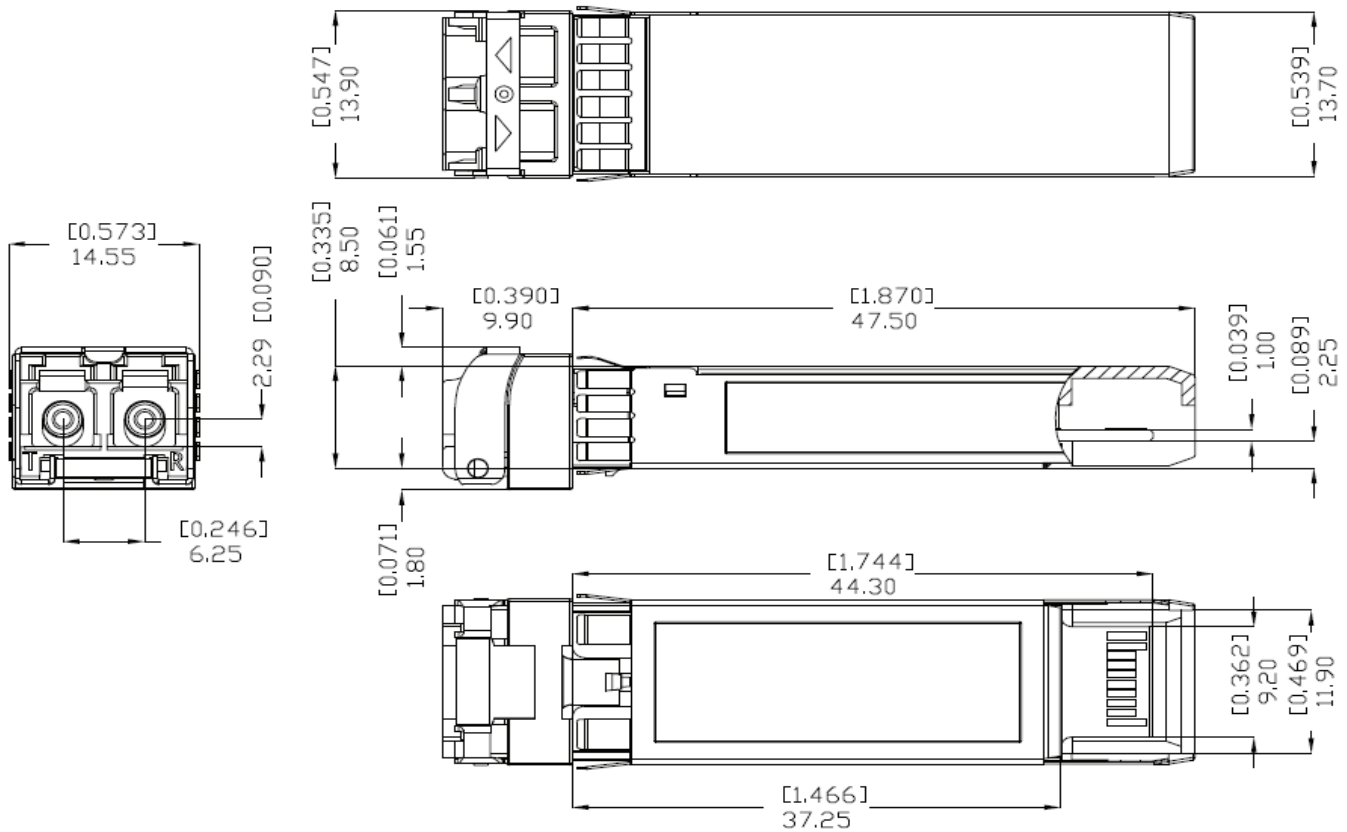
Oplink TPD7XGKZRxxG DWDM 80km SFP+ Transceivers



ESD & Electromagnetic Compatibility

Requirements	Standard	Status
Electro Static Discharge to the Electrical Pins (ESD)	EIA/JESD22-A114-B MIL-STD 883C Method 3015.7	Exceeds requirements Class 1B (>1000V)
Immunity to ESD (housing, receptacle)	IEN 61000-4-2	Exceeds requirements Discharges ranging from 2kV to 15kV without damages to the transceiver
Electromagnetic Emission (EMI)	FCC Part 15, Class B EN 55022 Class B CISPR 22	Exceeds requirements Class B

Module Outline



Oplink TPD7XGKZRxxG DWDM 80km SFP+ Transceivers



Ordering Information

Model Name	Operating Temperature		"Center Wavelength (nm)"	ITU Frequency (THz)	Wavelength Reference	Distance
TPD7XGKZRC00061G	- 5°C to +70°C	Commercial	1528.77	196.1	61	80km
TPD7XGKZRC00060G	- 5°C to +70°C	Commercial	1529.55	196	60	80km
TPD7XGKZRC00059G	- 5°C to +70°C	Commercial	1530.33	195.9	59	80km
TPD7XGKZRC00058G	- 5°C to +70°C	Commercial	1531.12	195.8	58	80km
TPD7XGKZRC00057G	- 5°C to +70°C	Commercial	1531.9	195.7	57	80km
TPD7XGKZRC00056G	- 5°C to +70°C	Commercial	1532.68	195.6	56	80km
TPD7XGKZRC00055G	- 5°C to +70°C	Commercial	1533.47	195.5	55	80km
TPD7XGKZRC00054G	- 5°C to +70°C	Commercial	1534.25	195.4	54	80km
TPD7XGKZRC00053G	- 5°C to +70°C	Commercial	1535.04	195.3	53	80km
TPD7XGKZRC00052G	- 5°C to +70°C	Commercial	1535.82	195.2	52	80km
TPD7XGKZRC00051G	- 5°C to +70°C	Commercial	1536.61	195.1	51	80km
TPD7XGKZRC00050G	- 5°C to +70°C	Commercial	1537.4	195	50	80km
TPD7XGKZRC00049G	- 5°C to +70°C	Commercial	1538.19	194.9	49	80km
TPD7XGKZRC00048G	- 5°C to +70°C	Commercial	1538.98	194.8	48	80km
TPD7XGKZRC00047G	- 5°C to +70°C	Commercial	1539.77	194.7	47	80km
TPD7XGKZRC00046G	- 5°C to +70°C	Commercial	1540.56	194.6	46	80km
TPD7XGKZRC00045G	- 5°C to +70°C	Commercial	1541.35	194.5	45	80km
TPD7XGKZRC00044G	- 5°C to +70°C	Commercial	1542.14	194.4	44	80km
TPD7XGKZRC00043G	- 5°C to +70°C	Commercial	1542.94	194.3	43	80km
TPD7XGKZRC00042G	- 5°C to +70°C	Commercial	1543.73	194.2	42	80km
TPD7XGKZRC00041G	- 5°C to +70°C	Commercial	1544.53	194.1	41	80km
TPD7XGKZRC00040G	- 5°C to +70°C	Commercial	1545.32	194	40	80km
TPD7XGKZRC00039G	- 5°C to +70°C	Commercial	1546.12	193.9	39	80km
TPD7XGKZRC00038G	- 5°C to +70°C	Commercial	1546.92	193.8	38	80km
TPD7XGKZRC00037G	- 5°C to +70°C	Commercial	1547.72	193.7	37	80km
TPD7XGKZRC00036G	- 5°C to +70°C	Commercial	1548.51	193.6	36	80km
TPD7XGKZRC00035G	- 5°C to +70°C	Commercial	1549.32	193.5	35	80km
TPD7XGKZRC00034G	- 5°C to +70°C	Commercial	1550.12	193.4	34	80km
TPD7XGKZRC00033G	- 5°C to +70°C	Commercial	1550.92	193.3	33	80km
TPD7XGKZRC00032G	- 5°C to +70°C	Commercial	1551.72	193.2	32	80km
TPD7XGKZRC00031G	- 5°C to +70°C	Commercial	1552.52	193.1	31	80km
TPD7XGKZRC00030G	- 5°C to +70°C	Commercial	1553.33	193	30	80km
TPD7XGKZRC00029G	- 5°C to +70°C	Commercial	1554.13	192.9	29	80km
TPD7XGKZRC00028G	- 5°C to +70°C	Commercial	1554.94	192.8	28	80km
TPD7XGKZRC00027G	- 5°C to +70°C	Commercial	1555.75	192.7	27	80km
TPD7XGKZRC00026G	- 5°C to +70°C	Commercial	1556.55	192.6	26	80km
TPD7XGKZRC00025G	- 5°C to +70°C	Commercial	1557.36	192.5	25	80km
TPD7XGKZRC00024G	- 5°C to +70°C	Commercial	1558.17	192.4	24	80km

Oplink TPD7XGKZRxxG DWDM 80km SFP+ Transceivers



Ordering Information

Model Name	Operating Temperature		Center Wavelength (nm)	ITU Frequency (THz)	Wavelength Reference	Distance
TPD7XGKZRC00023G	- 5°C to +70°C	Commercial	1558.98	192.3	23	80km
TPD7XGKZRC00022G	- 5°C to +70°C	Commercial	1559.79	192.2	22	80km
TPD7XGKZRC00021G	- 5°C to +70°C	Commercial	1560.61	192.1	21	80km
TPD7XGKZRC00020G	- 5°C to +70°C	Commercial	1561.42	192	20	80km
TPD7XGKZRC00019G	- 5°C to +70°C	Commercial	1562.23	191.9	19	80km
TPD7XGKZRC00018G	- 5°C to +70°C	Commercial	1563.05	191.8	18	80km
TPD7XGKZRC00017G	- 5°C to +70°C	Commercial	1563.86	191.7	17	80km
TPD7XGKZRC00016G	- 5°C to +70°C	Commercial	1564.68	191.6	16	80km
TPD7XGKZRE00061G	- 5°C to + 85°C	Extended	1528.77	196.1	61	80km
TPD7XGKZRE00060G	- 5°C to + 85°C	Extended	1529.55	196	60	80km
TPD7XGKZRE00059G	- 5°C to + 85°C	Extended	1530.33	195.9	59	80km
TPD7XGKZRE00058G	- 5°C to + 85°C	Extended	1531.12	195.8	58	80km
TPD7XGKZRE00057G	- 5°C to + 85°C	Extended	1531.9	195.7	57	80km
TPD7XGKZRE00056G	- 5°C to + 85°C	Extended	1532.68	195.6	56	80km
TPD7XGKZRE00055G	- 5°C to + 85°C	Extended	1533.47	195.5	55	80km
TPD7XGKZRE00054G	- 5°C to + 85°C	Extended	1534.25	195.4	54	80km
TPD7XGKZRE00053G	- 5°C to + 85°C	Extended	1535.04	195.3	53	80km
TPD7XGKZRE00052G	- 5°C to + 85°C		1535.82	195.2	52	80km
TPD7XGKZRE00051G	- 5°C to + 85°C		1536.61	195.1	51	80km
TPD7XGKZRE00050G	- 5°C to + 85°C		1537.4	195	50	80km
TPD7XGKZRE00049G	- 5°C to + 85°C		1538.19	194.9	49	80km
TPD7XGKZRE00048G	- 5°C to + 85°C		1538.98	194.8	48	80km
TPD7XGKZRE00047G	- 5°C to + 85°C		1539.77	194.7	47	80km
TPD7XGKZRE00046G	- 5°C to + 85°C		1540.56	194.6	46	80km
TPD7XGKZRE00045G	- 5°C to + 85°C		1541.35	194.5	45	80km
TPD7XGKZRE00044G	- 5°C to + 85°C		1542.14	194.4	44	80km
TPD7XGKZRE00043G	- 5°C to + 85°C		1542.94	194.3	43	80km
TPD7XGKZRE00042G	- 5°C to + 85°C		1543.73	194.2	42	80km
TPD7XGKZRE00041G	- 5°C to + 85°C		1544.53	194.1	41	80km
TPD7XGKZRE00040G	- 5°C to + 85°C		1545.32	194	40	80km
TPD7XGKZRE00039G	- 5°C to + 85°C		1546.12	193.9	39	80km
TPD7XGKZRE00038G	- 5°C to + 85°C		1546.92	193.8	38	80km
TPD7XGKZRE00037G	- 5°C to + 85°C		1547.72	193.7	37	80km
TPD7XGKZRE00036G	- 5°C to + 85°C		1548.51	193.6	36	80km
TPD7XGKZRE00035G	- 5°C to + 85°C		1549.32	193.5	35	80km
TPD7XGKZRE00034G	- 5°C to + 85°C		1550.12	193.4	34	80km
TPD7XGKZRE00033G	- 5°C to + 85°C		1550.92	193.3	33	80km
TPD7XGKZRE00032G	- 5°C to + 85°C		1551.72	193.2	32	80km
TPD7XGKZRE00031G	- 5°C to + 85°C		1552.52	193.1	31	80km

Oplink TPD7XGKZRxxG DWDM 80km SFP+ Transceivers



Ordering Information

Model Name	Operating Temperature	Center Wavelength (nm)	ITU Frequency (THz)	Wavelength Reference	Distance
TPD7XGKZRE00030G	- 5°C to + 85°C	1553.33	193	30	80km
TPD7XGKZRE00029G	- 5°C to + 85°C	1554.13	192.9	29	80km
TPD7XGKZRE00028G	- 5°C to + 85°C	1554.94	192.8	28	80km
TPD7XGKZRE00027G	- 5°C to + 85°C	1555.75	192.7	27	80km
TPD7XGKZRE00026G	- 5°C to + 85°C	1556.55	192.6	26	80km
TPD7XGKZRE00025G	- 5°C to + 85°C	1557.36	192.5	25	80km
TPD7XGKZRE00024G	- 5°C to + 85°C	1558.17	192.4	24	80km
TPD7XGKZRE00023G	- 5°C to + 85°C	1558.98	192.3	23	80km
TPD7XGKZRE00022G	- 5°C to + 85°C	1559.79	192.2	22	80km
TPD7XGKZRE00021G	- 5°C to + 85°C	1560.61	192.1	21	80km
TPD7XGKZRE00020G	- 5°C to + 85°C	1561.42	192	20	80km
TPD7XGKZRE00019G	- 5°C to + 85°C	1562.23	191.9	19	80km
TPD7XGKZRE00018G	- 5°C to + 85°C	1563.05	191.8	18	80km
TPD7XGKZRE00017G	- 5°C to + 85°C	1563.86	191.7	17	80km
TPD7XGKZRE00016G	- 5°C to + 85°C	1564.68	191.6	16	80km
TPD7XGKZRI00061G	- 40°C to + 85°C	1528.77	196.1	61	80km
TPD7XGKZRI00060G	- 40°C to + 85°C	1529.55	196	60	80km
TPD7XGKZRI00059G	- 40°C to + 85°C	1530.33	195.9	59	80km
TPD7XGKZRI00058G	- 40°C to + 85°C	1531.12	195.8	58	80km
TPD7XGKZRI00057G	- 40°C to + 85°C	1531.9	195.7	57	80km
TPD7XGKZRI00056G	- 40°C to + 85°C	1532.68	195.6	56	80km
TPD7XGKZRI00055G	- 40°C to + 85°C	1533.47	195.5	55	80km
TPD7XGKZRI00054G	- 40°C to + 85°C	1534.25	195.4	54	80km
TPD7XGKZRI00053G	- 40°C to + 85°C	1535.04	195.3	53	80km
TPD7XGKZRI00052G	- 40°C to + 85°C	1535.82	195.2	52	80km
TPD7XGKZRI00051G	- 40°C to + 85°C	1536.61	195.1	51	80km
TPD7XGKZRI00050G	- 40°C to + 85°C	1537.4	195	50	80km
TPD7XGKZRI00049G	- 40°C to + 85°C	1538.19	194.9	49	80km
TPD7XGKZRI00048G	- 40°C to + 85°C	1538.98	194.8	48	80km
TPD7XGKZRI00047G	- 40°C to + 85°C	1539.77	194.7	47	80km
TPD7XGKZRI00046G	- 40°C to + 85°C	1540.56	194.6	46	80km
TPD7XGKZRI00045G	- 40°C to + 85°C	1541.35	194.5	45	80km
TPD7XGKZRI00044G	- 40°C to + 85°C	1542.14	194.4	44	80km
TPD7XGKZRI00043G	- 40°C to + 85°C	1542.94	194.3	43	80km
TPD7XGKZRI00042G	- 40°C to + 85°C	1543.73	194.2	42	80km
TPD7XGKZRI00041G	- 40°C to + 85°C	1544.53	194.1	41	80km
TPD7XGKZRI00040G	- 40°C to + 85°C	1545.32	194	40	80km
TPD7XGKZRI00039G	- 40°C to + 85°C	1546.12	193.9	39	80km
TPD7XGKZRI00038G	- 40°C to + 85°C	1546.92	193.8	38	80km

Oplink TPD7XGKZRxxG DWDM 80km SFP+ Transceivers



Ordering Information

Model Name	Operating Temperature	Center Wavelength (nm)	ITU Frequency (THz)	Wavelength Reference	Distance
TPD7XGKZRI00037G	- 40°C to + 85°C	1547.72	193.7	37	80km
TPD7XGKZRI00036G	- 40°C to + 85°C	1548.51	193.6	36	80km
TPD7XGKZRI00035G	- 40°C to + 85°C	1549.32	193.5	35	80km
TPD7XGKZRI00034G	- 40°C to + 85°C	1550.12	193.4	34	80km
TPD7XGKZRI00033G	- 40°C to + 85°C	1550.92	193.3	33	80km
TPD7XGKZRI00032G	- 40°C to + 85°C	1551.72	193.2	32	80km
TPD7XGKZRI00031G	- 40°C to + 85°C	1552.52	193.1	31	80km
TPD7XGKZRI00030G	- 40°C to + 85°C	1553.33	193	30	80km
TPD7XGKZRI00029G	- 40°C to + 85°C	1554.13	192.9	29	80km
TPD7XGKZRI00028G	- 40°C to + 85°C	1554.94	192.8	28	80km
TPD7XGKZRI00027G	- 40°C to + 85°C	1555.75	192.7	27	80km
TPD7XGKZRI00026G	- 40°C to + 85°C	1556.55	192.6	26	80km
TPD7XGKZRI00025G	- 40°C to + 85°C	1557.36	192.5	25	80km
TPD7XGKZRI00024G	- 40°C to + 85°C	1558.17	192.4	24	80km
TPD7XGKZRI00023G	- 40°C to + 85°C	1558.98	192.3	23	80km
TPD7XGKZRI00022G	- 40°C to + 85°C	1559.79	192.2	22	80km
TPD7XGKZRI00021G	- 40°C to + 85°C	1560.61	192.1	21	80km
TPD7XGKZRI00020G	- 40°C to + 85°C	1561.42	192	20	80km
TPD7XGKZRI00019G	- 40°C to + 85°C	1562.23	191.9	19	80km
TPD7XGKZRI00018G	- 40°C to + 85°C	1563.05	191.8	18	80km
TPD7XGKZRI00017G	- 40°C to + 85°C	1563.86	191.7	17	80km
TPD7XGKZRI00016G	- 40°C to + 85°C	1564.68	191.6	16	80km

www.oplink.com

Molex is a registered trademark of Molex, LLC in the United States of America and may be registered in other countries; all other trademarks listed herein belong to their respective owners.

Order No. 987651-8261

USA/0k/GF/2018.06

©2018 Molex

Downloaded from Arrow.com