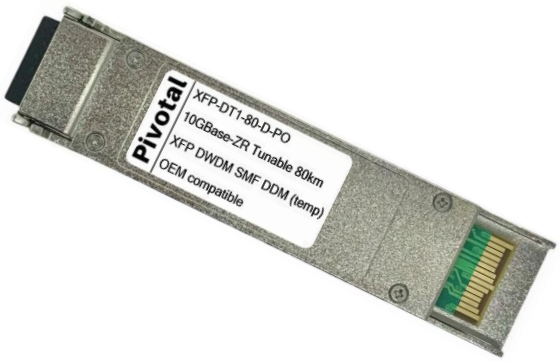
XFP-DT1-80-D

10GBASE, XFP, ZR, DWDM Tunable (96ch), SMF TRANSCEIVER 1528.77-1563.86nm, 80km REACH, DUPLEX LC CONNECTOR

Product Features

- Hot pluggable XFP footprint
- Multi-Protocol, supports 9.95Gb/s to 11.3Gb/s bit rates
- Monolithically integrated full C-band tunable transmitter
- 50GHz ITU channel spacing with integrated wavelength locker
- C-band tunable Laser and high performance APD receiver
- Maximum link length of 80km
- Full Duplex LC connector
- Supports Line-side and XFI loopback
- No Reference Clock required
- Digital diagnostic monitoring support
- Standard bail release mechanism
- Power dissipation <3.5W
- RoHS compliant and lead free
- Available operating temperature ranges:
    - Commercial: 0°C to +70°C
    - Industrial: -40°C to +85°C



Product Applications

- DWDM 10GBASE-ZR/ZW 10Gb/s Ethernet
- DWDM 10Gb/s Fiber Channel
- DWDM SONET OC-192 & SDH STM-64

I. Maximum Ratings

Exceeding the limits below may damage the transceiver module permanently.

Parameter	Symbol	Min.	Typ.	Max.	Units
Maximum Supply Voltage 1	Vcc3	-0.5		4.0	V
Maximum Supply Voltage 2	Vcc5	-0.5		6.0	
Storage Temperature	TS	-40		85	°C

II. Operating Specifications

Parameter	Symbol	Min.	Typ.	Max.	Units	Notes
Case Operating Temperature	TC	0		+70	°C	Commercial
		-40		+85		Industrial
Data Rate	BR		11.3168		Gbps	
Transmission Distance	TD			80	km	

III. Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Units	Notes
Transmitter						
Wavelength Range		1528.77		1563.86	nm	
Optical Wavelength	λc	λc-0.05		λc+0.05	nm	
Center Wavelength Spacing			50		GHz	1
Frequency Stability (BOL)		f-1.5		f+1.5	GHz	2
Frequency Stability (EOL)		f-2.5		f+2.5	GHz	2
Average Optical Power	Pf	-1		3	dBm	
Side Mode Suppression Ratio	SMSR	30			dB	
Optical Extinction Ratio	ER	9			dB	
Transmitter and Dispersion Penalty	TDP			3	dB	
AVG Launch power (Tx OFF)	POFF			-30	dBm	
Receiver						
Rx Sensitivity	RSENS			-24	dBm	Back to back, 3
				-21		Fiber (-300 to 1450ps/nm)
Input Saturation Power (Overload)	Psat	-7			dBm	
Wavelength Range	λc	1260		1600	nm	
Receiver Reflectance	Rrx			-27	dB	
LOS De-assert	LOS_D			-27	dBm	
LOS Assert	LOS_A	-37			dBm	
LOS Hysteresis	LOS_H	0.5			dB	

Notes:

1. Corresponds to approximately 0.4nm.
2. fc refer to Page 4 the Frequency row of Wavelength Guide Table and test condition is reflect power to transmitter lower than -27dBm. 3
3. Measured with worst ER; BER<10^{-12} with 10.3Gbps, 2^{31}–1PRBS.

IV. Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Supply Voltage – 1.8V supply	Vcc2	1.71		1.89	V	
Supply Voltage – 3.3V supply	Vcc3	3.13		3.47	V	
Supply Current – 1.8V supply	Icc2			180	mA	
Supply Current – 3.3V supply	Icc3			680	mA	
Module test power	P			2.5	W	1
Transmitter						
Input Differential Impedance	R_{IN}		100		Ω	2
Differential data input swing	Vin,pp	120		820		
Transmit Disable Voltage	V_D	2.0		Vcc		
Transmit Enable Voltage	V_{EN}	GND		GND+0.8		
Receiver						
Differential data output swing	Vout,pp	340	650	850		3
LOS Fault	$V_{LOS\ fault}$	Vcc-0.5		VccHost		4
LOS Normal	$V_{LOS\ norm}$	GND		GND+0.5		4

Notes:

1. Maximum total power value is specified across the full temperature and voltage range.
2. After internal AC coupling.
3. Into 100ohms differential termination.
4. Loss Of Signal is open collector to be pulled up with a 4.7k–10kohm resistor to 3.15–3.6V. Logic 0 indicates normal operation; logic 1 indicates no signal detected.

V. Timing Parameters

Parameter	Symbol	Min.	Typ.	Max.	Units	Notes
Time to initialize cooled module	t_start_up			20	s	
Channel Switch Time	TchSw			200	ms	

VI. Wavelength Guide

Channel #	Frequency GHz	Wavelength nm	Part # D(**XX**)	Channel #	Frequency GHz	Wavelength nm	Part # D(**XX**)
17	191700	1563.86	**D17**	40	194000	1545.32	**D40**
18	191800	1563.05	**D18**	41	194100	1544.53	**D41**
19	191900	1562.23	**D19**	42	194200	1543.73	**D42**
20	192000	1561.42	**D20**	43	194300	1542.94	**D43**
21	192100	1560.61	**D21**	44	194400	1542.14	**D44**
22	192200	1559.79	**D22**	45	194500	1541.35	**D45**
23	192300	1558.98	**D23**	46	194600	1540.56	**D46**
24	192400	1558.17	**D24**	47	194700	1539.77	**D47**
25	192500	1557.36	**D25**	48	194800	1538.98	**D48**
26	192600	1556.56	**D26**	49	194900	1538.19	**D49**
27	192700	1555.75	**D27**	50	195000	1537.4	**D50**
28	192800	1554.94	**D28**	51	195100	1536.61	**D51**
29	192900	1554.13	**D29**	52	195200	1535.82	**D52**
30	193000	1553.33	**D30**	53	195300	1535.04	**D53**
31	193100	1552.52	**D31**	54	195400	1534.25	**D54**
32	193200	1551.72	**D32**	55	195500	1533.47	**D55**
33	193300	1550.92	**D33**	56	195600	1532.68	**D56**
34	193400	1550.12	**D34**	57	195700	1531.9	**D57**
35	193500	1549.32	**D35**	58	195800	1531.12	**D58**
36	193600	1548.52	**D36**	59	195900	1530.33	**D59**
37	193700	1547.72	**D37**	60	196000	1529.55	**D60**
38	193800	1546.92	**D38**	61	196100	1528.77	**D61**
39	193900	1546.12	**D39**				
Non-ITU: Peak wavelength between 1563.86-1528.77nm [Channel: 17-61]							

VII. Ordering Information

Pivotal Part Number	Description
XFP-DT1-80-D	XFP, DWDM Tunable 1528.77-1566.72nm (96Ch), ZR SMF 80km, 10G DDM, C-Temp
XFP-DT1-80-DI	XFP, DWDM Tunable 1528.77-1566.72nm (96Ch), ZR SMF 80km, 10G DDM, I-Temp

Notes:

1. Please contact sales for specific OEM Platform part numbers to fit your network.

Warranty

https://pivotaloptics.com/warranty/

Disclaimer

External physical characteristics are subject to variation. This may include, but is not limited to, external case designs, pull tab colors and/or shapes, removal latch styles or colors, and label sizes and placement. These variations do not affect the function or characteristics of the transceivers.