

SP-SMT5DW080D-GP

- Single-Mode SFP+ Tunable Transceiver
- RoHS Compliant

Features

- 1550 nm ITU-T C-band 50 GHz spacing Tunable DWDM SFP+ Transceiver
- Data rate 9.95 - 11.3 Gbit/s
- Support 80 km link distances
- Negative chirp transmitter with ILMZ (Integrated Laser Mach Zehnder) TOSA
- APD receiver with limiting amplifier
- Low power consumption: <1.7 W at 70°C
- Positive power supply lines: 3.3 V
- Operating case temperature range: 0°C to 70°C
- Compact size (56.5mm L x 13.9mm W x 11.85mm H)
- Class 1 Laser Safety

Applications

- Wide area networks (WAN)
- Local area networks (LAN)
- Storage area networks (SAN)
- Ethernet switches and applications
- FC switches and applications

Ordering information

Part No.	Description
SP-SMT5DW080D-GP	SFP+ Tunable DWDM SM LC DDM 80km

Absolute Maximum Ratings

Parameter	Symbol	Minimum	Typical	Maximum	Unit	Remarks
Supply Voltage	V _{CC} T	0	-	+3.6	V	+3.3V
Supply Voltage	V _{CC} R	0	-	+3.6	V	+3.3V
Optical Receiver Input	P _{IMAX}	-	-	+5	dBm	Average
Operating Case Temperature	T _C	-10	-	+75	°C	-
Storage Temperature	T _{STR}	-40	-	+85	°C	-
ESD SFI pins	ESD1	-	-	1	kV	HBM
ESD except for SFI pins	ESD2	-	-	2	kV	HBM

Recommended Operating Conditions

Parameter	Symbol	Minimum	Typical	Maximum	Unit	Remarks
Supply Voltage	V _{CC} T	3.135	3.300	3.465	V	+3.3V
Supply Voltage	V _{CC} R	3.135	3.300	3.465	V	+3.3V
Operating Case Temperature	T _C	0	25	+70	°C	-

Electrical Characteristics

Parameter	Symbol	Minimum	Typical	Maximum	Unit	Remarks
Supply Voltage	V _{CC} T	3.135	3.300	3.465	V	-
	V _{CC} R	3.135	3.300	3.465	V	-
Supply Current	I _{CC3}	-	-	0.54	A	-
Power Consumption	P _{DS}	-	-	1.7	W	-

Optical Characteristics

Transmitter

Parameter	Symbol	Minimum	Typical	Maximum	Unit	Remarks	
Data rate	-	9.95	-	11.3	Gbit/s	NRZ	
Frequency range	-	191.35	-	196.10	THz	50GHz grid, 96 channels	
Frequency accuracy	-	-2.5	-	+2.5	GHz	EOL	
Optical transmit power	P _o	-1.0	-	+3.0	dBm	EOL	
Shuttered output power	-	-	-	-35	dBm	-	
Optical power stability	ΔP _o	-1.0	-	+1.0	dB	All channels, SOL	
Side mode suppression	SMSR	35	-	-	dB	±2.5nm, modulated	
Spectral width	Δλ	-	0.3	0.5	nm	-20dB, modulated	
Extinction ratio	ER	9.0	-	-	dB	Filtered, 10.709Gb/s	
Eye diagram compliance	-	GR-253, ITU-T G.691				-	-
Mask margin	-	10	-	-	%	-	
Tuning speed	-	-	-	10	sec	warmed-up, from any CH to any other CH	

Receiver

Parameter	Symbol	Minimum	Typical	Maximum	Unit	Remarks
Data rate	-	9.95	-	11.3	Gbit/s	NRZ
Input operating wavelength	-	1525	-	1575	nm	-
Minimum Receiver Sensitivity (Back to back)	P _{min}	-	-	-24	dBm	10.3Gb/s, 1E-12, OSNR>35dB
Maximum input power (overload)	P _{to}	-7	-	-	dBm	
Receiver Reflectance	RL	-	-	-27	dB	-
LOS assert	-	-	-	-27	dBm	-
LOS de-assert	-	-	-	-25	dBm	-
LOS Hysteresis	-	0.5	-	4.0	dB	-
LOS assert time	-	-	-	100	us	-
LOS de-assert time	-	-	-	100	us	-

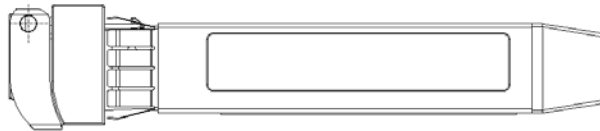
Tunable SFP+ Channel Number and Wavelength

Channel	Frequency (THz)	Center Wavelength (nm)
1	191.35	1566.72
2	191.40	1566.31
3	191.45	1565.90
4	191.50	1565.50
5	191.55	1565.09
6	191.60	1564.68
7	191.65	1564.27
8	191.70	1563.86
9	191.75	1563.45
10	191.80	1563.05
11	191.85	1562.64
12	191.90	1562.23
13	191.95	1561.83
14	192.00	1561.42
15	192.05	1561.01
16	192.10	1560.61
17	192.15	1560.20
18	192.20	1559.79
19	192.25	1559.39
20	192.30	1558.98
21	192.35	1558.58
22	192.40	1558.17
23	192.45	1557.77
24	192.50	1557.36
25	192.55	1556.96
26	192.60	1556.55
27	192.65	1556.15
28	192.70	1555.75
29	192.75	1555.34
30	192.80	1554.94
31	192.85	1554.54
32	192.90	1554.13
33	192.95	1553.73
34	193.00	1553.33
35	193.05	1552.93
36	193.10	1552.52
37	193.15	1552.12
38	193.20	1551.72
39	193.25	1551.32
40	193.30	1550.92
41	193.35	1550.52
42	193.40	1550.12
43	193.45	1549.72
44	193.50	1549.32
45	193.55	1548.91
46	193.60	1548.51
47	193.65	1548.11
48	193.70	1547.72

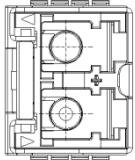
Channel	Frequency (THz)	Center Wavelength (nm)
49	193.75	1547.32
50	193.80	1546.92
51	193.85	1546.52
52	193.90	1546.12
53	193.95	1545.72
54	194.00	1545.32
55	194.05	1544.92
56	194.10	1544.53
57	194.15	1544.13
58	194.20	1543.73
59	194.25	1543.33
60	194.30	1542.94
61	194.35	1542.54
62	194.40	1542.14
63	194.45	1541.75
64	194.50	1541.35
65	194.55	1540.95
66	194.60	1540.56
67	194.65	1540.16
68	194.70	1539.77
69	194.75	1539.37
70	194.80	1538.98
71	194.85	1538.58
72	194.90	1538.19
73	194.95	1537.79
74	195.00	1537.40
75	195.05	1537.00
76	195.10	1536.61
77	195.15	1536.22
78	195.20	1535.82
79	195.25	1535.43
80	195.30	1535.04
81	195.35	1534.64
82	195.40	1534.25
83	195.45	1533.86
84	195.50	1533.47
85	195.55	1533.07
86	195.60	1532.68
87	195.65	1532.29
88	195.70	1531.90
89	195.75	1531.51
90	195.80	1531.12
91	195.85	1530.72
92	195.90	1530.33
93	195.95	1529.94
94	196.00	1529.55
95	196.05	1529.16
96	196.10	1528.77

Mechanical specifications

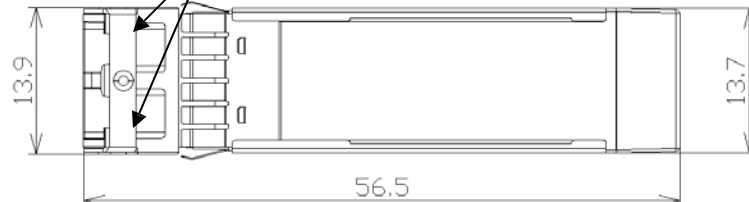
Side



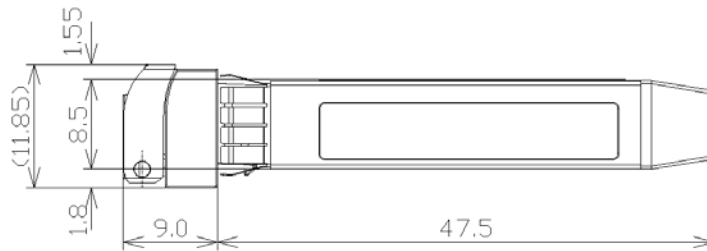
Top



Color code: Green



Side



Bottom

