

SP-SMATDW080D-GP

- Single-Mode SFP+ Auto-Tunable Transceiver
- RoHS Compliant

Features

- 1550 nm ITU-T C-band 100 GHz spacing Tunable DWDM SFP+ Transceiver
- Auto-Tunable
- Data rate 1.2- 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: max 2.3W
- Power supply lines: 3.3 V
- Operating case temperature range: -40°C to 85°C
- Compact size (56.5mm L x 13.9mm W x 11.85mm H)
- RoHS 6 compliant

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-SMATDW080D-GP	SFP+ AUTO-Tunable DWDM SM LC DDM 80km 100GHz APD temp. (-40 +85)

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	-40	-	+85	°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	-40	25	+85	°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}	-	-	0.73	A	-
Power Consumption	P _{DS}	-	-	2.3	W	-

Optical Characteristics

Transmitter

Parameter	Symbol	Minimum	Typical	Maximum	Unit	Remarks
Data rate	-	1.2	-	11.3	Gbit/s	NRZ
Frequency range	-	191.40	-	196.10	THz	100GHz grid, 48 channels
Frequency accuracy	-	-12.5	-	+12.5	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	8.2	-	-	dB	Filtered, 10.3Gb/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	-	1.2	-	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
Minimum Receiver Sensitivity (+1100ps/nm)		-	-	-23	dBm	
Minimum Receiver Sensitivity (-300 to +1400ps/nm)		-	-	-21	dBm	
Maximum input power (overload)	P _{ro}	-7	-	-	dBm	All channels, SOL
Receiver Reflectance	RL	-	-	-27	dB	±2.5nm, modulated
LOS assert	-	-27.5	-	-	dBm	-20dB, modulated
LOS de-assert	-	-	-	-24	dBm	Filtered, 10.3Gb/s
LOS Hysteresis	-	0.1	-	-	dB	±2.5nm, modulated
LOS assert time	-	-	-	100	us	-20dB, modulated
LOS de-assert time	-	-	-	100	us	Filtered, 10.3Gb/s

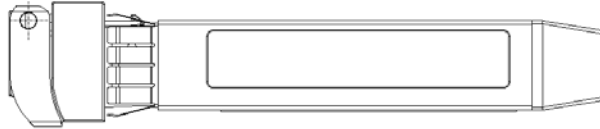
AUTO-Tunable SFP+ Channel Number and Wavelength

Channel	Frequency (THz)	Center Wavelength (nm)
1	191.40	1566.31
2	191.50	1565.50
3	191.60	1564.68
4	191.70	1563.86
5	191.80	1563.05
6	191.90	1562.23
7	192.00	1561.42
8	192.10	1560.61
9	192.20	1559.79
10	192.30	1558.98
11	192.40	1558.17
12	192.50	1557.36
13	192.60	1556.55
14	192.70	1555.75
15	192.80	1554.94
16	192.90	1554.13
17	193.00	1553.33
18	193.10	1552.52
19	193.20	1551.72
20	193.30	1550.92
21	193.40	1550.12
22	193.50	1549.32
23	193.60	1548.51
24	193.70	1547.72

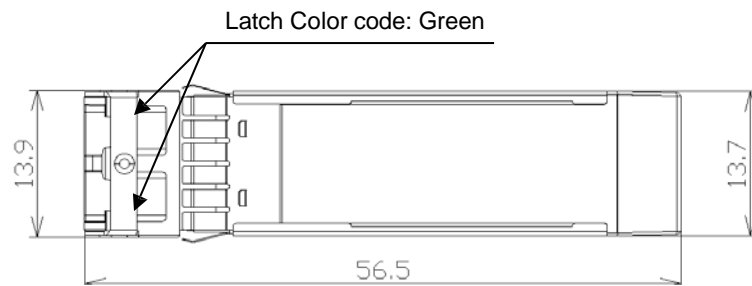
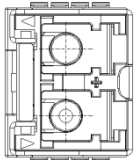
Channel	Frequency (THz)	Center Wavelength (nm)
25	193.80	1546.92
26	193.90	1546.12
27	194.00	1545.32
28	194.10	1544.53
29	194.20	1543.73
30	194.30	1542.94
31	194.40	1542.14
32	194.50	1541.35
33	194.60	1540.56
34	194.70	1539.77
35	194.80	1538.98
36	194.90	1538.19
37	195.00	1537.40
38	195.10	1536.61
39	195.20	1535.82
40	195.30	1535.04
41	195.40	1534.25
42	195.50	1533.47
43	195.60	1532.68
44	195.70	1531.90
45	195.80	1531.12
46	195.90	1530.33
47	196.00	1529.55
48	196.10	1528.77

Mechanical specifications

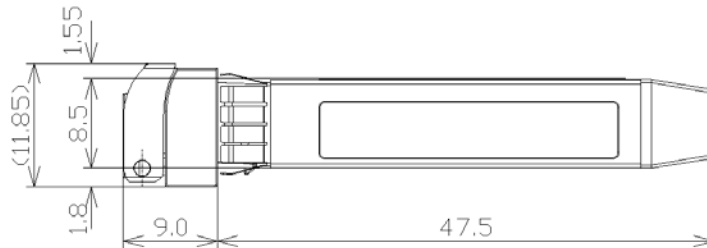
Side



Top



Side



Bottom

