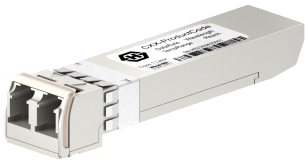
DATA SHEET

Transceivers
10G SFP+ DWDM ZR
CSS-851A23

Properties

- Multi-protocol support
- Data rate up to 11.3 Gbps
- Reach up to 80km
- Any ITU DWDM channel between C17 and C61
- LC/PC duplex connector
- Singlemode fiber
- Temp. range 0 ... 70°C
- Link budget at least 23 dB (w/o dispersion penalty)



General data	
Form factor	SFP+
Product image	Actual product may differ from the images shown. Colours, design, and details can vary.
Protocol	1/10G Ethernet, 1/2/4/8/10G FC, STM-64/OC-48, CPRI Option 2...8, OBSAI
Data rate standards	10GBASE-ZR/ZW
	CPRI Option 2 to 8
Media type	Singlemode
Connector	LC/PC duplex
Modulation Format	NRZ
Built-in FEC	No
CDR	none
Operation temperature	0 °C ... 70 °C
Supply voltage typical	3.13 V ... 3.47 V
Supply Current	< 430 mA
Power consumption	< 1.4 W
Digital Diagnostic Management (DDM)	Yes
Laser hazard level	1

Absolute Maximum Ratings	
Max. supply voltage range	-0.5 V ... 4 V
Max. Storage Temperature Range	-40 °C ... 85 °C
Max. relative humidity range	5 % ... 95 %

Transmitter Specifications	
Laser Type	EML
Grid	DWDM 100GHz C-band
Available Wavelength in nm	Any ITU DWDM channel between C17 and C61

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Transmitter Specifications	
Average launch power per lane	0 dBm ... 4 dBm
Dispersion Penalty	< 3 dB
Dispersion range	-400 ps/nm ... 1600ps/nm
Extinction Ratio	> 8.2
Side Mode Suppression	> 30 dB
Supported Data rate	1.0625 Gbps ... 11.3 Gbps

Receiver Specifications	
Receiver Type	APD
Operating Wavelength Range	1260 nm ... 1620nm
Receiver Overload	> -6 dBm
Receiver Sensitivity	< -23 dBm
Bit Error Rate at Receiver	1E-12
Receiver LOS De-Assert	< -27 dBm
Receiver LOS Assert	> -35 dBm
Receiver LOS Hysteresis	> 0.5
Supported Data rate	1.0625 Gbps ... 11.3 Gbps

Ordering Information Table		
Order Code	Compatibility code explanation	Wavelength code explanation
CSS-851A23xxxx-ww	"xxxx" is an alphanumerical string, describing the compatibility. "0000" means no special coding to ensure compatibility with a special switch type.	-ww: DWDM channel chosen from the table at the end

Channel Allocation							
Code	ITU Number	Frequency (GHz)	Wavelength (nm)	Code	ITU Number	Frequency (GHz)	Wavelength (nm)
-17	C17	191700	1563.86	-40	C40	194000	1545.32
-18	C18	191800	1563.05	-41	C41	194100	1544.53
-19	C19	191900	1562.23	-42	C42	194200	1543.73
-20	C20	192000	1561.42	-43	C43	194300	1542.94
-21	C21	192100	1560.61	-44	C44	194000	1542.14
-22	C22	192200	1559.79	-45	C45	194500	1541.35
-23	C23	192300	1558.98	-46	C46	194600	1540.56
-24	C24	192400	1558.17	-47	C47	194700	1539.77
-25	C25	192500	1557.36	-48	C48	194800	1538.98
-26	C26	192600	1556.55	-49	C49	194900	1538.19
-27	C27	192700	1555.75	-50	C50	195000	1537.40
-28	C28	192800	1554.94	-51	C51	195100	1536.61
-29	C29	192900	1554.13	-52	C52	195200	1535.82
-30	C30	193000	1553.33	-53	C53	195300	1535.04
-31	C31	193100	1552.52	-54	C54	195400	1534.25
-32	C32	193200	1551.72	-55	C55	195500	1533.47
-33	C33	193300	1550.92	-56	C56	195600	1532.68
-34	C34	193400	1550.12	-57	C57	195700	1531.90
-35	C35	193500	1549.32	-58	C58	195800	1531.12
-36	C36	193600	1548.51	-59	C59	195900	1530.33
-37	C37	193700	1547.72	-60	C60	196000	1529.55
-38	C38	193800	1546.92	-61	C61	196100	1528.77
-39	C39	193900	1546.12				

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