DATA SHEET

Transceivers
25G SFP28 CWDM LR
CSS-413A13

Properties

- Multi-protocol support
- Data rate 9.83...11.3 / 24.33...25.78 Gbps
- Reach up to 10km
- Any ITU CWDM channel between 1271nm and 1371nm
- LC/PC duplex connector
- Singlemode fiber
- Temp. range -40 ... 85°C
- Link budget at least 13 dB



General data	
Form factor	SFP28
Product image	Actual product may differ from the images shown. Colours, design, and details can vary.
Protocol	10/25G Ethernet, eCPRI, CPRI 7/8/10
Data rate standards	25GBASE-LR 25G eCPRI CPRI Option 7,8,10
Media type	Singlemode
Connector	LC/PC duplex
Modulation Format	NRZ
Built-in FEC	No
CDR	Double, with bypass control (by HW pins or RS bits)
Operation temperature	-40 °C ... 85 °C
Supply voltage typical	3.13 V ... 3.47 V
Supply Current	< 600 mA
Power consumption	< 2 W
Digital Diagnostic Management (DDM)	Yes
Laser hazard level	1

Absolute Maximum Ratings	
Max. supply voltage range	-0.3 V ... 4 V
Max. Storage Temperature Range	-40 °C ... 85 °C
Max. relative humidity range	5 % ... 95 %

Transceivers

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Transmitter Specifications	
Laser Type	DML
Grid	CWDM 20nm
Available Wavelength in nm	Any ITU CWDM channel between 1271nm and 1371nm
Average launch power per lane	0 dBm ... 6 dBm
Extinction Ratio	> 3.5 dB
Side Mode Suppression	> 30 dB
Supported Data rate	9.83 Gbps ... 11.3 Gbps / 24.33 Gbps ... 25.78 Gbps

Receiver Specifications	
Receiver Type	PIN
Operating Wavelength Range	1260 nm ... 1620nm
Receiver Overload	> 2 dBm
Receiver Sensitivity	< -13.3 dBm
Bit Error Rate at Receiver	5E-5
Maximum Optical Input Power per Lane (Overload)	3 dBm
Receiver LOS De-Assert	< -15 dBm
Receiver LOS Assert	> -30 dBm
Receiver LOS Hysteresis	> 0.5 dB
Supported Data rate	9.83 Gbps ... 11.3 Gbps / 24.33 Gbps ... 25.78 Gbps

Ordering Information Table		
Order Code	Compatibility code explanation	Wavelength code explanation
CSS-413A13xxxx-ww	“xxxx” is an alphanumerical string, describing the compatibility. “0000” means no special coding to ensure compatibility with a special switch type.	-ww: CWDM channel chosen from table at the end

Channel Allocation			
Code	Wavelength (nm)	Code	Wavelength (nm)
-27	1271	-33	1331
-29	1291	-35	1351
-31	1311	-37	1371

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DOCUMENT PIM-P28459 / Date of publication: 28.10.2026 / uncontrolled copy