



QDD-800G-DR8PP-5

800GBASE, QSFP-DD, DR8++, SMF TRANSCEIVER
1310nm, 10km REACH, DUAL MPO-12 CONNECTORS

Features

- Compliant with IEEE Std 802.3cu 100GBASE-LR1
- Compliant with QSFP-DD MSA
- 5nm DSP for low power dissipation: <14W
- Compliant with CMIS5.0 Management interface specifications
- Dual MPO-12 receptacles
- Cooled 1310nm EML laser
- 8*53.125GBd PAM4 electrical interface
- Transmission distance up to 10km SMF
- Single +3.3V power supply
- Commercial operating temperature: 0°C to +70°C
- RoHS Compliant

Applications

- 2x400G-DR4++
- 8x100GBASE-LR1 Ethernet
- Data Center

Absolute Maximum Ratings

Parameter	Symbol	Minimum	Maximum	Unit
Storage Temperature	Ts	-40	85	°C
Relative Humidity	RH	0	85	%
Supply Voltage	VCC	-0.5	3.6	V

Recommended Operating Conditions

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Operating Case Temperature	TC	0	25	70	°C
Supply Voltage	VCC	3.135	3.3	3.465	V
Data Rate PER Channel			53.125		GBd
Modulation Format		PAM4			

Transceiver Electrical Characteristics						
Parameter	Symbol	Minimum	Typical	Maximum	Unit	Notes
Module Supply Current	I _{cc}			4.5	A	
Power Dissipation	PD			14	W	
Transmitter						
Input Differential Impedance	Z _{IN}	-	100		Ω	
Differential Data Input Swing	V _{IN} , P-P	180		900	mVP-P	
Receiver						
RSSI Accuracy		-2		2	dB	
Output Differential Impedance	Z _O		100		Ω	
Differential Data Output Swing	V _{OUT} , P-P	300	-	850	mVP-P	1
Notes:						
1. Internally AC coupled, but requires a external 100Ω differential load termination.						

Optical Characteristics						
Parameter	Symbol	Minimum	Typical	Maximum	Unit	Notes
Transmitter						
Lane Wavelengths	λ	1304.5		-1317.5	nm	1
Side-mode Suppression Ratio	SMSR	30			dB	2
Average Launch Power, Each Lane	P	-1.9		-4.8	dBm	3
Outer Optical Modulation Amplitude, Each Lane for TDECQ<1.4dB for 1.4dB≤TDECQ≤3.4dB	OMA _{outer}	1.1		5	dBm	3
		-0.3+ TDECQ		5	dBm	3
Transmitter and Dispersion Penalty Eye Closure for PAM4, Each Lane	TDECQ			-3.4	dB	4
Transmitter Eye Closure for PAM4 (TECQ), Each Lane	TECQ			3.4	dB	
TDECQ-TECQ			2.5	dB	-	
Extinction Ratio	ER	3.5			dB	4
Average Launch Power of OFF Transmitter	P _{off}			-15	dBm	
Optical Return Loss Tolerance	ORLT			15.6	dB	
Transmitter Reflectance				-26	dB	
Receiver						
Lane Wavelengths	λ	1304.5		1317.5	nm	1
Receiver Sensitivity Each Lane (OMA outer), for TECQ<1.4dB for 1.4≤TECQ≤3.4dB				-6.1	dBm	5
				-7.5+TECQ	dBm	5
Average Receiver Power, Each Lane	P _{avg}	-8.2		4.8	dBm	
Receiver Overload, Each Lane (P _{avg})	POL	4.8			dBm	6
Damage Threshold, Each Lane		5.8			dBm	
Receive power, Each Lane (OMA _{outer})	OMA			-5	dBm	
Receiver Reflectance				-26	dB	
LOS De-Assert	LOSD			-10	dBm	4
LOS Assert	LOSA	-16			dBm	4
LOS Hysteresis		0.5			dB	

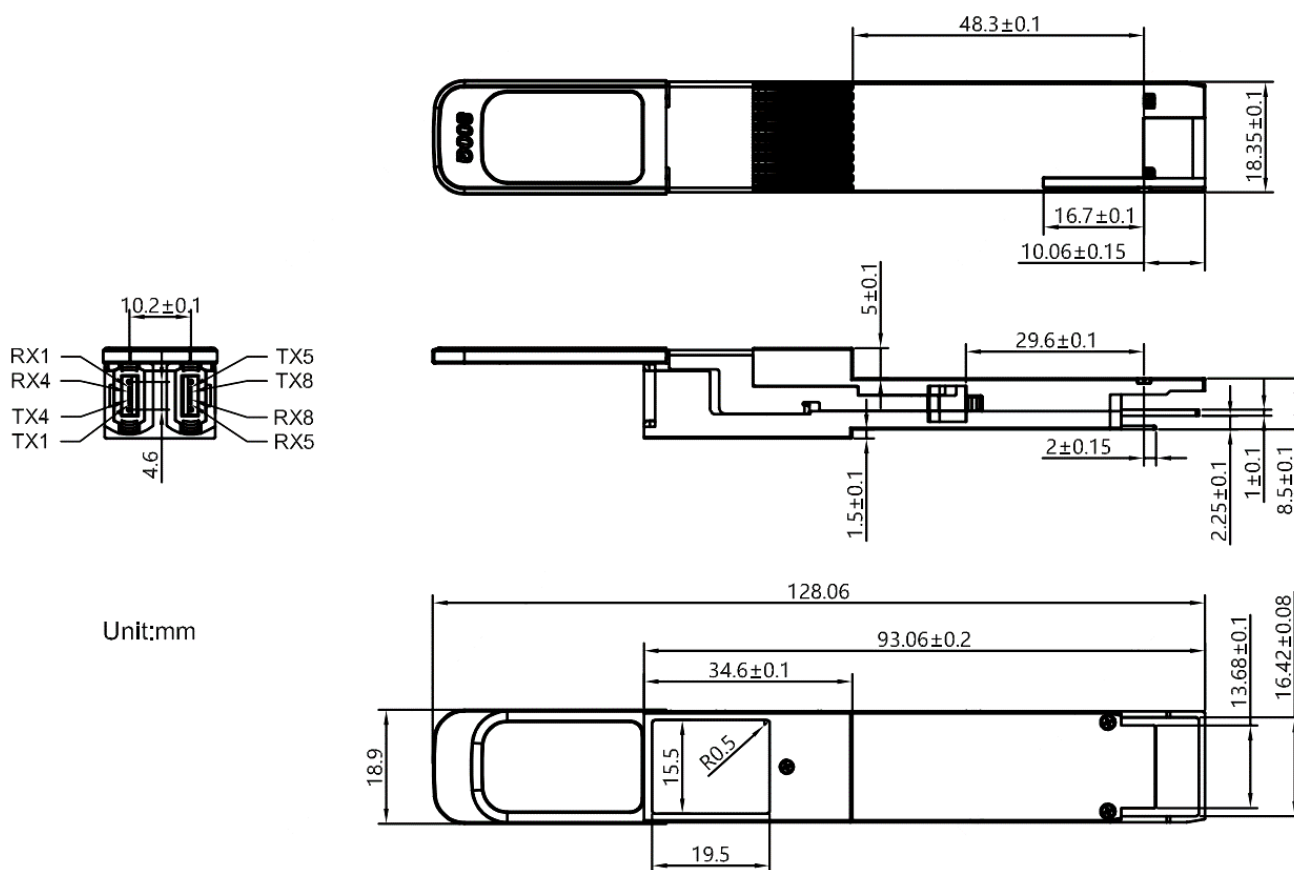
Optical Characteristics

Parameter	Symbol	Minimum	Typical	Maximum	Unit	Notes
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Notes:

- 13nm width.
- Modulated.
- Class 1 Laser Safety per FDA/CDRH and EN (IEC) 60825 regulations.
- 106.25Gbps PAM4.
- 106.25Gbps@BER<2.4x10⁻⁴ and PRBS2³¹-1, per Channel.
- Per Channel.

Mechanical Diagram



Unit:mm

Note:

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.

Ordering Information

OEM	Part Number	OEM	Part Number
Arista	QDD-800G-2PLR4-A	Cisco	QDD-8X100G-LR-A
MSA	AN-QDD-800G-DR8PP		