

200 Gb/s QSFP-DD LR4 10 km Transceiver

QSFP-DD Series



The ACT QDD-200-LR4-LP10 is a high-performance 200 Gb/s QSFP-DD optical transceiver designed for next-generation data center and service provider networks requiring high bandwidth and extended reach. Supporting 200GBASE-LR4 with four LAN-WDM wavelengths over single-mode fiber, the module enables reliable transmission distances of up to 10 km, making it well suited for data center interconnect (DCI), metro aggregation, and high-capacity enterprise applications.

Built on PAM4 modulation with a lane data rate of 53.125 Gb/s, the transceiver complies fully with IEEE 802.3cn 200GBASE-LR4, QSFP-DD MSA, and CMIS standards, ensuring broad interoperability with leading network platforms. The module integrates LAN-WDM lasers and PIN receivers in a compact QSFP-DD form factor with LC duplex connector, while maintaining a maximum power consumption of 10 W for efficient thermal performance in high-density environments.

Designed for operational reliability, the ACT QDD-200-LR4-LP10 supports comprehensive Digital Diagnostic Monitoring (DDM), allowing real-time access to critical parameters such as temperature, voltage, bias current, and optical power. With the compliance with EU Directive 2015/863/EU (RoHS), this transceiver provides a robust, standards-based solution for scalable 200G optical deployments.

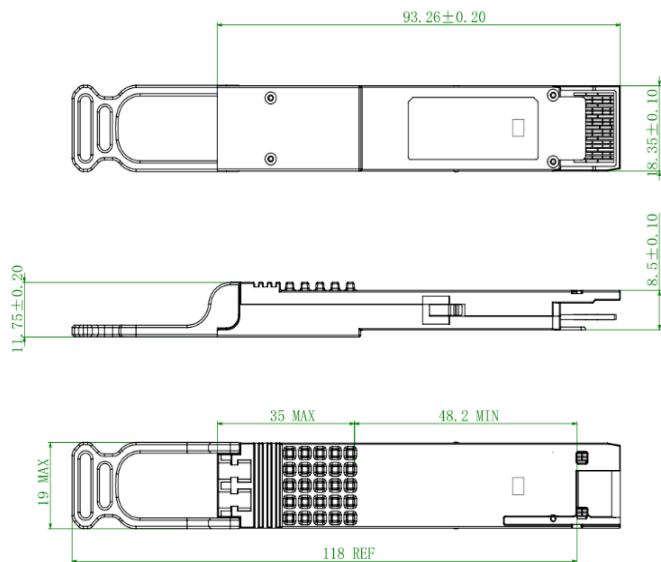
Key Features

- Supports 200GBASE-LR4
- Lane bit rate 53.125 Gb/s with PAM4
- Up to 10km transmission on SMF
- LAN WDM laser and PIN receiver
- 200GAUI-8 Electrical interface with 8 Lanes 26.5625Gb/s NRZ high-speed signal
- QSFP-DD MSA package with duplex LC connector
- Compliant with IEEE 802.3cn 200GBASE-LR4
- Single +3.3V power supply
- Maximum power consumption 10W
- Operating case temperature: 0 to +70 °C
- Compliant to QSFP-DD CMIS & QSFP-DD MSA HW standard
- Complies with EU Directive 2015/863/EU

Specifications

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Operating Case Temperature	T _C	0	-	70	°C	
Power Supply Voltage	V _{CC}	3.13	3.3	3.47	V	
Power Supply Current	I _{CC}	-	-	3.03	A	3.3V
Maximum Power Consumption	P	-	-	10	W	
Aggregate Bit Rate	BR _{AVE}	-	212.5	-	Gb/s	With PAM4
Lane Bit Rate	BR _{LANE}	-	53.125	-	Gb/s	With PAM4
Transmission Distance	TD	-	-	10	km	Over SMF
Signaling Rate, each Lane	BR	26.5625 ± 100 ppm			GBd	
Lane Wavelengths	L0	1294.53	1295.56	1296.59	nm	
		1299.02	1300.05	1301.09	nm	
		1303.54	1304.58	1305.63	nm	
		1308.09	1309.14	1310.19	nm	
Total Average Launch Power	P _{MAX}	-	-	11.3	dBm	
Average Launch Power, each Lane	P _{OUT}	-3.4	-	5.3	dBm	
Average POUT (Laser Turn Off)	P _{OFF}	-	-	-30	dBm	
Damage Threshold, each Lane	P _{DAMAGE}	6.3	-	-	dBm	
Average Receive Power, each Lane	P _{RX_LANE}	-9.7	-	5.3	dBm	
Differential Data Input Amplitude	V _{IN,P-P}	900	-	-	mVpp	
Differential Data Output Amplitude	V _{OUT,P-P}	-	-	900	mVpp	

Outline Diagram



Ordering Information

Product Name

QDD-200-LR4-LP10

Product Description

QSFP DD PAM4 Plug-in, 200GBASE-LR4 10km, SMF,LC Duplex, DOM



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