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Jabil 200 Gb/s QSFP56 FR4 PAM4 Optical Transceiver is a small form-factor, high speed, and low power consumption product targeted for use in optical interconnects for data communications applications. The high bandwidth QSFP56 module supports 2 km links over single-mode fiber via LC connector.

APPLICATIONS

- 200GbE connectivity for large-scale cloud and enterprise data centers
- Ethernet switch, router, and client-side telecom interfaces

STANDARDS

- QSFP56 MSA
- IEEE 802.3bs

For additional information, visit

up to 2 km

- Compact QSFP56 form factor for high faceplate density in

ABSOLUTE MAXIMUM RATINGS

Stresses beyond those listed undend t

Optical Transmitter

TRANSMITTER OPTICAL OUTPUT CHARACTERISTICS (TP2)

PARAMETER	SYMBOL	MIN	TYP	MAX	UNITS	NOTES
Data modulation type			PAM4			
Data rate, each lane	BR	53.12	53.125	53.13	Gbps	
Baud/symbol rate, each lane	BR	26.56	26.5625	26.565	Gbd	
Lane wavelengths	WL	1265.25	1271	1276.75	nm	
		1285.25	1291	1296.75		
		1305.25	1311	1316.75		
		1325.25	1331	1336.75		
Side mode suppression ratio	SMSR	30	-	-	dB	
Average optical output power, each lane	Pave	-4.2	-	4.7	dBm	1
Total Ave Launch Power	AOPtot			10.7	dBm	
Op ŧ						

Electrical PIN Assignment

The optical transceiver pinout for QSFP56 is the same as QSFP28 MSA specification, with the module in compliance with the specifications in SFF-8679. Figure below shows the module connector pad layout, and table below lists and describes all of the electrical pins of the module.

ELECTRICAL CONNECTOR PAD LAYOUT

TOP SIDE
VIEWED FROM TOP

BOTTOM SIDE
VIEWED FROM BOTTOM

For additional information, visit jabil.com

QSFP28 MODULE ELECTRICAL CONNECTOR PIN DEFINITIONS CONT.

PAD	LOGIC	SYMBOL	DESCRIPTION	PLUG SEQUENCE	NOTES
25	CML-O	Rx4p	Receiver Non-Inverted Data Output	3	
26		GND	Ground	1	1
27	LVT				

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Control and Monitoring Interface

Management Interface

GENERAL FUNCTIONALITY

An I^{2}C interface shall be used for management interface between the optical transceiver and the respective host systems. The communication protocol shall follow the industry standard and parameters specified by Facebook's QSFP-56 CMIS requirements. Timing specification for control and status follows SFF-8679 and in addition to these timing requirements are as listed below in reference to QSFP-DD Hardware Specification.

TIMING REQUIREMENTS FOR CONTROL AND STATUS

PARAMETER	SYMBOL	MIN	MAX	UNITS
MgmtInit	t_init		2000	ms
Reset Init assert time	t_reset_init	10		µs
Serial bus hardware ready time	t_serial		2000	ms
Monitor data ready time	t_data		2000	ms
Reset assert time	t_reset		3000	ms
LPMode assert time	ton_LPMode	15	ms	
LPMode de-assert time	toff_LPMode	3000	ms	1
IntL assert time	ton_Intl		200	ms
IntL de-assert time	toff_Intl		7	ms
Rx LOS assert time	ton_LOS		100	ms
Tx fault assert time	ton_flag		200	ms
Flag assert time	toff_flag		200	ms
Mask assert time	ton_mask		100	ms
Mask de-assert time	toff mask		100	ms
Application or rate select change time	t ratesel		2000	ms
Power override or power set assert time	ton_Pdown		300	ms
Power override or power set deassert time	toff Pdown		2000	ms
Rx squelch assert time	ton_Rxsq		100	ms
Rx squelch de-assert time	toff_Rxsq		2000	ms

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TIMING REQUIREMENTS FOR CONTROL AND STATUS CONT.

PARAMETER	SYMBOL	MIN	MAX	UNITS
Tx squelch assert time	ton_Txsq		400	ms
Tx squelch de-assert time	toff_Txsq		2000	ms
Tx disable assert time	ton_txdis		3000	ms
Tx disable de-asssert time	toff_txdis		400	ms
Rx output disable assert time	ton_rxdutTC B4 Tm(i)-1.2 (m)-7.1 (e)ᵀJ-0.054 Tc r			
B4 Tm(i)-1.2 (m)-7.1 (e)ᵀJ-0.054 Tc r				

Label Specif cation

The following printed label is attached to the product (note that the certification labels will be added/removed according to requests and certification process results):

:

Regulatory and Compliance

:

RoHS

- 2002/95/EC and the revised and recast Directive 2011/65/EC (RoHS) Restriction on Hazardous Substances.
- 2006/1907/EC (REACH) Registration, Evaluation, Authorization of Chemicals.

- JIG 101-A, JIG 101-B Joint Industry Guide Japanese Material Composition Declaration.
- CAITEC SJ/T 11363-2006 Requirements for Concentration Limits for Certain Hazardous Substances in Electronic Information Products (China RoHS).
- Complies with RoHS II Directive 2011/65/EU.

Ordering Information

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At Jabil (NYSE: JBL), we are proud to be a trusted partner for the world's top brands, offering comprehensive engineering, manufacturing, and supply chain solutions.

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