Product Brief

TRB5E22ENF-LF000

100GE CFP2 LR4 10 km Transceiver

Description

CIG's 100GbE CFP2 LR4 transceiver module (TRB5E22ENF) enables dense port count and high throughput capacity with its compact size (W x L x H = 41.5 x 106 x 12.4 (mm)) and low power consumption (6 W). These modules can be used in a wide range of network applications, including DWDM systems, metropolitan area network (MAN) systems, Ethernet switches and IP routers. A maximum transmission distance of up to 10km over single mode fiber is realized using an EA-DFB-based optical transmitter and PIN-PD based optical receiver operating on the LAN-WDM wavelength grid. Clock and data recovery ICs in transmit and receive paths ensure robust link performance over all operating conditions. The module is hot pluggable when mated to a compliant 104-pin connector that delivers a supply voltage of 3.3 V.

Features

- 100 Gigabit Ethernet (100GbE) 100GBASE-LR4 Transceiver
- Aggregate Data Rate: 103.125 Gbit/s
- Optical Interface: Compliant to 100GBASE-LR4 [1]
- Electrical Interface: Compliant to CEI-28G-VSR [2]
- Reach: Up to 10km over single mode fiber
- Form Factor: Compliant to CFP2 MSA [3]
- Optical Transmitter: EA-DFB
- Optical Receiver: PIN photodetector
- Power Consumption: 6 W max
- Operating Case Temperature: 0 to 70 degC
- Size (W x L x H): 41.5 mm x 106 mm x 12.4 mm
- Hot Z-Pluggable to 104-pin electrical connector
- Latching Mechanism: Lever Latch
- Management Interface: MDIO Management Interface [4]
- Environmental: RoHS6 compliant

References

[1] IEEE Std 802.3ba-2010
[2] OIF CEI-28G-VSR
[3] CFP2 MSA Hardware specification, rev1.0
[4] CFP MSA MDIO Specification, Version 2.2 r06a, July 1, 2013

Operating Environments

Table 1 Operating Environment

No	Parameter	Symbol	Min.	Typ.	Max.	Unit	Remarks
1	Supply Voltage	Vcc	3.135	3.3	3.465	V	
2	Power Consumption	P	-	-	6	W	
3	Case Temperature	Tc	0	-	70	°C	

Optical Characteristics

Table 2 Optical Characteristics

No.	Parameter		Symbol	Min.	Typ.	Max.	Unit	Remarks
1	Channel data rate				25.78125		Gbit/s	
2	Aggregate data rate				103.125		Gbit/s	IEEE 802.3ba
3	Transmitter Center Wavelength							
		Lane 0		1294.53		1296.59	nm	
		Lane 1		1299.02		1301.09		
		Lane 2		1303.54		1305.63		
		Lane 3		1308.09		1310.19		
4	Optical Output Power (OMA), each lane		OMA	-1.3		+4.5	dBm	
5	Average Optical Output Power of OFF Transmitter		P_{off}			-30	dBm	
6	Extinction Ratio		ER	4			dB	
7	Receiver Sensitivity (OMA), each lane					-8.6	dBm	
8	Stressed Receiver Sensitivity (OMA), each lane		SRS			-6.8	dBm	
9	Average Receive Power (OMA), each lane					+4.5	dBm	

EMI Compliance

This product meets Electromagnetic Interference (EMI) specifications of following standards.

1 FCC Part 15, Subpart B (Class B)

2 EN55032 (Class B)

Laser Safety

Certified as a Class 1 laser product per international standard IEC 60825-1:2014 3rd edition

Complies with 21 CFR 1040.10 except for deviations pursuant to Laser Notice No. 50, and IEC 60825-1 as Class 1 and with FDA 21 CFR as Class I laser product.

For more Information

Cambridge Industries Group (CIG)

www.cigtech.com

Sales: sales@cigtech.com Technical Support: support@cigtech.com