

10GBASE-SR X2 Optical Transceiver

JX2 Series



Key Features

- 850 nm, up to 300 m over multimode fiber (MMF)
- 10.3125 Gb/s data rate (Ethernet); 10.51875 Gb/s (Fibre Channel)
- 4-bit XAUI differential AC-coupled electrical interface
- Positive power supply operation (1.8 V, 3.3 V)
- 2.8 W typical, 3.6 W maximum
- Low power mode
- Digital diagnostic monitoring
- Single-mode duplex SC optical connector

Applications

- Local Area Networks (LAN)
- Storage Area Networks (SAN)
- Ethernet switches and applications
- Fibre Channel switches and applications

Compliance

- IEEE 802.3ae standard
- 10GFC standard
- X2 MSA Revision 2.0b
- Tested in accordance with Telcordia GR-468
- Class 1 laser safety
- UL and TUV certified

The JDSU 10GBASE-SR X2 Transceiver is an integrated fiber optic transceiver that provides a high-speed serial link at a signaling rate of 10.3125 Gb/s for Ethernet and 10.51875 Gb/s for Fibre Channel. This product complies with the IEEE 802.3ae 10GBASE-SR standard, the 10G Fibre Channel standard, and the X2 Transceiver Multi-Source Agreement (MSA) (Rev 2.0b).

The transceiver uses a short wavelength (850 nm) VCSEL that enables data transmission over multi-mode fiber at distances of up to 300 m. This module features a 4-bit XAUI differential hot-pluggable electrical interface and accepts an industry standard duplex SC optical connector.

Digital diagnostic monitoring (DDM) is implemented and fully compliant with X2 DDM architecture. The unit monitors temperature, receive optical power, transmit optical power, and laser bias current.

Support for longer distances is available. Contact your JDSU Sales Representative.

2

Specifications

Parameter

JX2-13SMAA1 (Ethernet)
JX2-15SMAA1 (Fibre Channel)
Electrical Interface

Transmit signal input differential swing	160/2000 mV _{p-p}
Receive signal output differential swing	800/1600 mV _{p-p}
Control I/O signals	Low voltage TTL (3.3 V)

Optical

Wavelength	850 nm
Data rate(s)	10.3125 Gb/s and 10.51875 Gb/s
Distance	Up to 300 m
Maximum launch power into fiber (average)	-1.08 dBm
Minimum launch power into fiber (average)	-4.0 dBm
Transmitter and dispersion penalty (TDP)	Maximum 3.9 dB
Optical modulation amplitude (OMA)	Minimum -5.2 dBm
Stressed receiver sensitivity (OMA)	Maximum -10.3 dBm
Extinction ratio (ER)	Minimum 3.0 dB
Maximum bit error rate at minimum receiver sensitivity	$<10^{-12}$

Power

Power	Typical 2.8 W
	Maximum 3.6 W
Voltage	1.8 V (±5%), 3.3 V (±5%)
Supply current	Typical 375 mA (1.8 V), 650 mA (3.3 V)
	Maximum 500 mA (1.8 V), 800 mA (3.3 V)

Environmental

Operating temperature (case)	0°C to 70°C
Operating humidity	8% to 80%
Storage temperature	-40°C to 85°C

Mechanical

Dimension	X2 MSA Revision 2 compliant
Form factor	X2, SC connector

Digital Diagnostics

Base	XENPAK DDM
Enhance options	ALL

Laser Safety

US	21 CFR 1040.10 except for deviations pursuant to Laser Notice 50 (2001); UL approved for US and Canada
International	IEC 60825:Am.2 (2001) and IEC 60950 (CB Scheme)

3

Ordering Information

For more information on this or other products and their availability, please contact your local JDSU account manager or JDSU directly at 1-800-498-JDSU (5378) in North America and +800-5378-JDSU worldwide or via e-mail at customer.service@jdsu.com.

Sample: JX2-13SMAA1

JX2-		☐	☐			☐	☐	AA1	
Code	Transceiver			Code	Height				
13	Ethernet			SL	Low				
15	Fibre Channel			SM	Mid				
				SX	Tall				

Telcordia is a registered trademark of Telcordia Technologies Incorporated.

All statements, technical information and recommendations related to the products herein are based upon information believed to be reliable or accurate. However, the accuracy or completeness thereof is not guaranteed, and no responsibility is assumed for any inaccuracies. The user assumes all risks and liability whatsoever in connection with the use of a product or its application. JDSU reserves the right to change at any time without notice the design, specifications, function, fit or form of its products described herein, including withdrawal at any time of a product offered for sale herein. JDSU makes no representations that the products herein are free from any intellectual property claims of others. Please contact JDSU for more information. JDSU and the JDSU logo are trademarks of JDS Uniphase Corporation. Other trademarks are the property of their respective holders. ©2005 JDS Uniphase Corporation. All rights reserved. 30137395 Rev.001 12/05 10GSRX2TRANSCEIVER.DS.CMS.AE