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
13	Ethernet
15	Fibre Channel

Code	Height
SL	Low
SM	Mid
SX	Tall