

SFP-10G-BXU/BXD-60

10GBASE, SFP+, EZR, BiDi, SMF TRANSCEIVER (BXU)1270/1330nm, (BXD)1330/1270nm, 60km REACH, SIMPLEX LC CONNECTOR

SFP-10G-BX-60

10GBase SFP+ BiDi EZR (BXU)1270/1330nm, (BXD)1330/1270nm SMF 60km Transceiver

Product Features

- Up to 11.3Gb/s data links
- 1270nm DFB laser, 1330nm receiver
- 1330nm DFB laser, 1270nm receiver
- Up to 60km on 9/125µm SMF
- Hot-pluggable SFP+ footprint
- Compliant with SFP+ MSA Specification SFF-8431
- Single 3.3V Power supply and TTL Logic Interface
- LC Connector Interface
- Compliant with IEEE 802.3ae 10GBASE-ER
- Compliant with IEEE 802.3ae 10GBASE-EW
- Available operating temperature ranges:
 - Commercial: 0°C to 70°C
 - Industrial: -40°C to 85°C



Product Applications

- 10GBASE-ER/EW & 10G Ethernet
- OTN / CPRI
- Other optical links

I. Maximum Ratings

Exceeding the limits below may damage the transceiver module permanently.

Parameter	Symbol	Min.	Typ.	Max.	Units
Storage Temperature	TS	-40		+85	°C
Power Supply Voltage	Vcc	-0.5		3.6	V

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II. Operating Specifications

Parameter	Symbol	Min.	Typ.	Max.	Units	Notes
Case Operating Temperature	TC	0		+70	°C	Commercial
		-40		+85	°C	Industrial
Power Supply Voltage	VCC	3.15	3.3	3.45	V	
Baud Rate	BR	0.6	10.3125	11.3	GBaud	
Surge Current	I _{surge}			+30	mA	
Power Supply current				430	mA	
Link Distance	D			100	km	9/125um

III. Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Transmitter						
Centre Wavelength	λ_C	1260	1270	1280	nm	BXU
		1320	1330	1340		BXD
Spectral Bandwidth (RMS)	$\Delta\lambda$			1	nm	
Side Mode Suppression Ratio	SMSR	30			dB	
Average Output Power	P _{out, AVG}	1		6	dBm	1
Optical Extinction Ratio	ER	3.5			dB	
Relative Intensity Noise	RIN			-128	dB/Hz	
Transmitter OFF Output Power	P _{off}			-30	dBm	
Receiver						
Center Wavelength	λ_c	1320	1330	1340	nm	BXU
		1260	1270	1280		BXD
Receiver Sensitivity (AVG Power)	PIN			-20	dBm	2
Input Saturation Power (overload)	P _{sat}	-6			dBm	
LOS Assert	LOSA	-30			dBm	
LOS De-Assert	LOSD			-30	dBm	

Notes:

- Output is coupled into a 9/125um SMF.
- Measured with worst ER, BER less than 1E-12 and PRBS 2³¹-1 at 10.3125Gbps.

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IV. Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Transmitter						
CML Inputs(Differential)						
Input Impedance (Differential)						
Tx_DISABLE Input Voltage - High						
Receiver						
Differential Output Voltage Swing	Vout,pp	350		850	mVpp	
Differential Output Impedance	Zout	90	100	110	ohms	3
Data output rise/fall time	Tr/Tf	28			ps	4
LOS Assert Voltage	VlosH	Vcc-1.3		Vcc	V	5
LOS De-Assert Voltage	VlosL	Vee		Vcc+0.8	V	5
Power Supply Rejection	PSR	100			mVpp	6

Notes:

1. Connected directly to TX data input pins. AC coupled thereafter.
2. Or open circuit.
3. Input 100 ohms differential termination.
4. These are unfiltered 20-80% values.
5. Loss of Signal is LVTTTL. Logic 0 indicates normal operation; logic 1 indicates no signal detected.
6. Receiver sensitivity is compliant with power supply sinusoidal modulation of 20 Hz to 1.5 MHz up to specified value applied through the recommended power supply filtering network.

Warranty

All transceivers feature a limited lifetime warranty.

Disclaimer

External physical characteristics are subject to variation. This may include, but is not limited to, external case designs, pull tab colors and/or shapes, removal latch styles or colors, and label sizes and placement. These variations do not affect the function or characteristics of the transceivers.