Approved Networks
A brand of legrand

CSFP-BXD-20-I

1GBASE, SFP, LX, BiDi, SMF TRANSCEIVER
Tx: 1490nm / Rx: 1310nm, 20km REACH, DUPLEX LC CONNECTOR

Features

- 1250Mbps Typical Data Rate and compliant to 1000Base BX20 IEEE802.3ah
- 1490nm DFB laser transmitter for CSF-4312-20DA
- PIN photo-detector
- Up to 20km on 9/125μm SMF
- Hot-pluggable CSFP footprint
- LC/UPC type pluggable optical interface
- Achieve operational compatibility with conventional SFP
- Metal enclosure, for lower EMI
- RoHS compliant and lead-free
- Single +3.3V power supply
- Support Digital Diagnostic Monitoring interface
- Case operating temperature
  Commercial: 0°C to +70°C
  Industrial: -40°C to +85°C

Applications

- Gigabit Ethernet(1000BASE-BX20)
- Point to Point FTTH Application
- Switched Backplane Applications
- Router/Server Interface
- Switch to Switch Interface
- Other Optical Links

1. Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Storage Temperature	Ts	-40		85	°C	
Relative Humidity	RH	5		95	%	
Power Supply Voltage	VCC	-0.5		4	V	
Signal Input Voltage		-0.3		Vcc+0.3	V	
Receiver Damage Threshold		3			dBm	

2. Recommended Operating Conditions

Parameter		Symbol	Min.	Typ.	Max.	Unit	Note
Case Operating Temperature	Commercial	Tcase	0		70	ºC	
	Industrial		-40		85	ºC	
Power Supply Voltage		VCC	3.13	3.3	3.47	V	
Power Supply Current		ICC			450	mA	
Power Supply Noise Rejection					100	mVp-p	100Hz to 1MHz
Data Rate				1.25/1.25		Gbps	TX Rate/RX Rate
Transmission Distance					20	KM	
Coupled Fiber		Single mode fiber					9/125um SMF

3. Transmitter Specifications

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Average Output Power	POUT	-9		-3	dBm	1
Extinction Ratio	ER	9			dB	
Center Wavelength	λC	1480	1490	1500	nm	
Spectrum Width (RMS)	σ			3.5	nm	FP Laser (TX:1310nm)
Side Mode Suppression Ratio	SMSR	30			dB	DFB Laser (TX:1490nm)
Spectrum Bandwidth(-20dB)	σ			1	nm	
Transmitter OFF Output Power	POff			-45	dBm	
Differential Line Input Impedance	RIN	90	100	110	Ohm	
Output Eye Mask	Compliant with IEEE802.3 ah (class 1 laser safety)					2

Notes:

1. Measure at 2^7-1 NRZ PRBS pattern
2. Transmitter eye mask definition, and eye mask diagram with at least 10% margin.

4. Receiver Specifications

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Input Optical Wavelength	λIN	1260	1310	1360	nm	
Receiver Sensitivity	PIN			-19.5	dBm	1
Input Saturation Power (Overload)	PSAT	-3			dBm	
LOS Assert	LOSA	-35			dBm	
LOS De-assert	LOSD			-22	dBm	2
LOS Hysteresis		0.5	2	6	dB	

Notes:

1. Measured with Light source 1490nm(1310nm), ER=9dB; BER =<10^-12 @PRBS=2^7-1 NRZ
2. When LOS de-asserted, the RX data+/- output is signal output.

5. Electrical Interface Characteristics

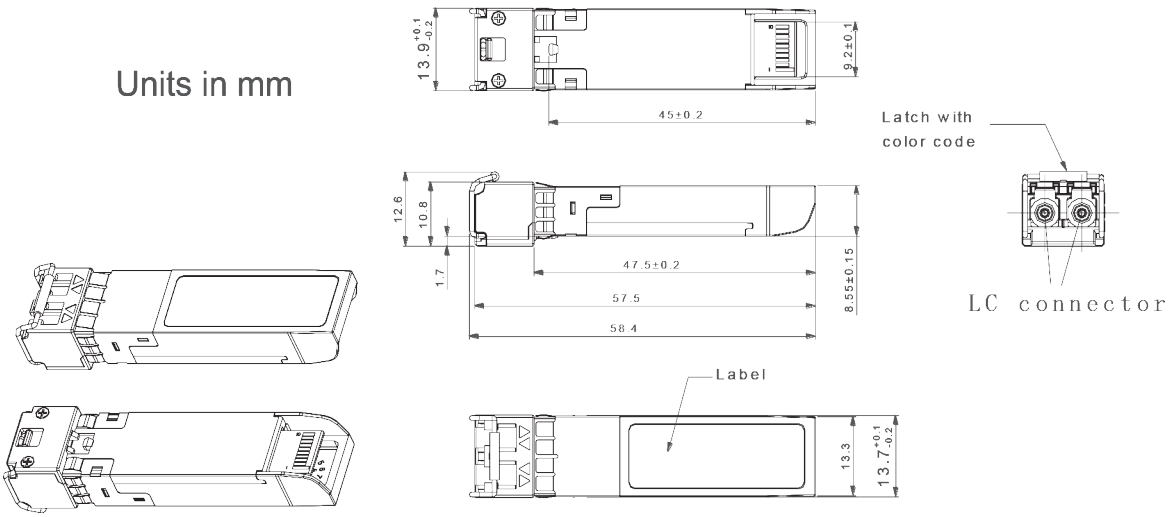
Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Transmitter						
Total Supply Current	ICC			A	mA	1
Transmitter Disable Input-High	VDISH	2		Vcc+0.3	V	
Transmitter Disable Input-Low	VDISL	0		0.8	V	
Transmitter Fault Input-High	VTxFH	2		Vcc+0.3	V	
Transmitter Fault Input-Low	VTxFL	0		0.8	V	
Receiver						
Total Supply Current	ICC			B	mA	1
LOSS Output Voltage-High	VLOSH	2		Vcc+0.3	V	LVTTL
LOSS Output Voltage-Low	VLOSL	0		0.8	V	

Notes:

1. A (TX) + B (RX) = 450mA (Not include termination circuit)

6. Mechanical Diagram

(Unit: mm)



Note: 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.

7. Ordering Information

OEM	Part Number	OEM	Part Number
Adtran	1442010G1-A	Cisco	GLC-2BX-D-A
Adtran	1442020G1-A	Cisco	GLC-2BX-D-20-A
Calix	100-01792-A	MSA Generic	AN-CSFP-BXD-10-I
Calix	100-02581-A	MSA Generic	AN-CSFP-BXD-20-I

8. Contact Information

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