

1.25Gbps 850nm SFP Transceiver BN-J4858D



Product Features

- Up to 1.25 Gbps data links
- 550m with 50/125µm 2000MHz MMF
- 850nm VCSEL laser
- Digital Diagnostic Monitor DDM
- Duplex LC Connector
- Hot-pluggable SFP footprint
- Single 3.3V power supply
- Operating temperature: Ref.to Ordering Info.
- RoHS



Applications

√ 1.25Gbps 1000Base-SX

1. Product Description

The BN-GLC-SX-MM/BNJ4858D are small form factor pluggable (SFP) transceiver compatible with multi-sourcing agreement (MSA). It is suitable for multi-mode fiber (MMF) communications in 1G Ethernet and 1.06Gbps Fiber Channel.

2. Regulatory Compliance

Our transceivers are Class 1 Laser Products comply with FDA regulations. Meet Class 1 eye safety requirements of EN 60825 and the electrical safety requirements of EN 60950.

3. Absolute Maximum Ratings

Parameter	Symbol	Min.	Max.	Unit
Supply Voltage	V _{CC}	-0.5	3.6	V
Storage Temperature	T _s	-40	85	°C
Operating Case Temperature	T _c	Refer to Ordering Information		

4. Recommended Operating Conditions

Parameter	Symbol	Min.	Typical	Max.	Unit
Operating Case Temperature	T _c	Refer to Ordering Information			
Power Supply Voltage	V _{CC}	3.15	3.3	3.45	V
Power Supply Current	I _{CC}			200	mA
Data Rate			1.25		GBps
Max Link Length on 50/125µm 2000MHz MMF	L _{max}		550	2000	m

5. Optical Characteristics

Parameter	Symbol	Min.	Typical	Max.	Unit
Transmitter					
Centre Wavelength	λ_c	830	850	860	nm
Spectral Width (RMS)	σ			4	nm
Average Output Power	P _{out}	-9		-3	dBm
Extinction Ratio	ER	9			dB
Optical Rise/Fall Time	tr/tf			250	ps
Receiver					
Centre Wavelength	λ_c	780	850	860	nm
Receiver Sensitivity	P _{IN}			-18	dBm
Receiver Overload	P _{max}	2			dBm
LOS De-Assert	LOS _D			-22	dBm
LOS Assert	LOS _A	-24			dBm
LOS Hysteresis		0.5		4.5	dB

6. Electrical Characteristics

Parameter	Symbol	Min.	Typical	Max.	Unit
Transmitter					
Input Differential Impedance	Z _{in}	90	100	110	Ω
Data Input Swing Differential	V _{in}	500		2400	mV
Tx-Dis Disable	V _d	2.0		V _{cc}	V
Tx-Dis Enable	V _{en}	0		0.8	V
TX-Fault (Fault)		2.0		V _{cc} +0.3	V
TX-Fault (Normal)		0		0.8	V
Receiver					
Data Output Swing Differential	V _{out}	370		2000	mV
Rx-Los Fault	V _{lf}	2.0		V _{cc} +0.3	V
Rx-Los Normal	V _{ln}	0		0+0.8	V

7. Pin Descriptions

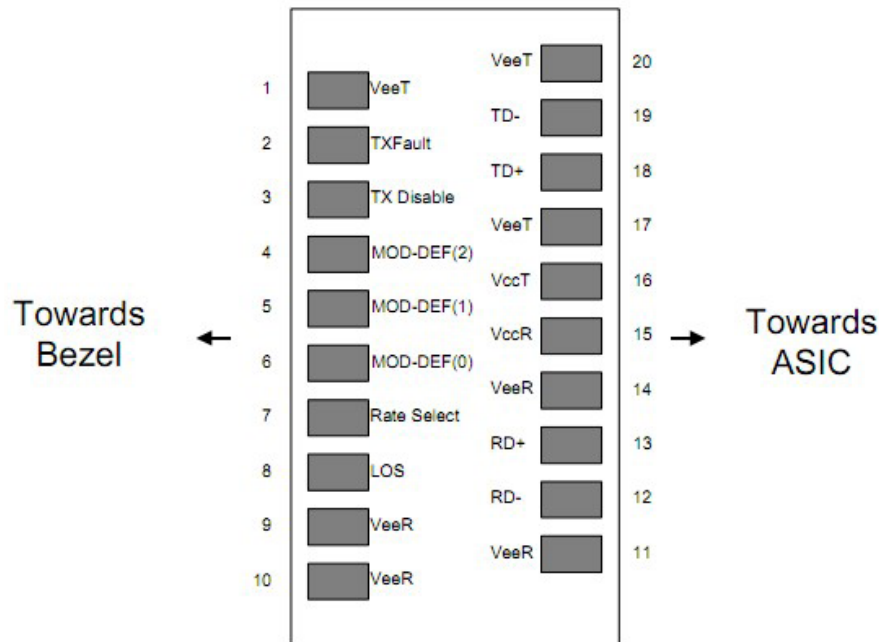


Diagram of Host Board Connector Block Pin Numbers and Names

Pin	Symbol	Description	Ref.
1	VEET	Transmitter Ground (Common with Receiver Ground)	6.1
2	TFAULT	Transmitter Fault. Not supported.	
3	TDIS	Transmitter Disable. Laser output disabled on high or open.	6.2
4	MOD_DEF(2)	Module Definition 2. Data line for Serial ID.	6.3
5	MOD_DEF(1)	Module Definition 1. Clock line for Serial ID.	6.3
6	MOD_DEF(0)	Module Definition 0. Grounded within the module.	6.3
7	Rate Select	No connection required	
8	LOS	Loss of Signal indication. Logic 0 indicates normal operation.	6.4
9	VEER	Receiver Ground (Common with Transmitter Ground)	6.1
10	VEER	Receiver Ground (Common with Transmitter Ground)	6.1
11	VEER	Receiver Ground (Common with Transmitter Ground)	6.1
12	RD-	Receiver Inverted DATA out. AC Coupled.	
13	RD+	Receiver Non-inverted DATA out. AC Coupled.	
14	VEER	Receiver Ground (Common with Transmitter Ground)	6.1
15	VCCR	Receiver Power Supply	
16	VCCT	Transmitter Power Supply	
17	VEET	Transmitter Ground (Common with Receiver Ground)	6.1
18	TD+	Transmitter Non-Inverted DATA in. AC Coupled.	
19	TD-	Transmitter Inverted DATA in. AC Coupled.	
20	VEET	Transmitter Ground (Common with Receiver Ground)	6.1

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Notes:

6.1 Circuit ground is internally isolated from chassis ground.

6.2 Laser output disabled on TDIS >2.0V or open, enabled on TDIS <0.8V.

6.3 Should be pulled up with 4.7k - 10kohms on host board to a voltage between 2.0V and 3.6V. MOD_DEF(0) pulls line low to indicate module is plugged in.

6.4 LOS is open collector output. Should be pulled up with 4.7k -10kohms on host board to a voltage between 2.0V and 3.6V. Logic 0 indicates normal operation; logic 1 indicates loss of signal.

8. EEPROM & DDM THRESHOLD

8.1 EEPROM

2 wire address 1010000X (A0h)

0~95 Serial ID Defined by SFP MSA (96 bytes)
96~127 Vendor Speific (32 bytes)
128~255 Reserved (128 bytes)

8.2 DDM THRESHOLD

		Low Alarm	Low Warn	H i g h Warn	H i g h Alarm
Temperature	BN-GLC-SX-MM	-10℃	-5℃	70℃	75℃
	BN-J4858DI	-45℃	-40℃	85℃	90℃
Voltage		3V	3.1V	3.5V	3.6V
Tx Bias BN-GLC-SX-MM		4mA	5mA	10.5mA	11.5mA
Tx Bias BN-J4858D		4mA	5mA	10.5mA	11.5mA
Tx Power		-13.5dBm	-9.5dBm	-2dBm	0dBm
Rx Power		-21dBm	-17dBm	0dBm	1dBm

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10. Mechanical Specifications

