

# SBU45080GExD – SFP Single Downstream Transceiver

Tx 1490nm & Rx 1550nm / 80km / Gigabit Ethernet

For your product safety, please read the following information carefully before any manipulation of the transceiver:



**ESD**

This transceiver is specified as ESD threshold 1kV for SFI pins and 2kV for all others electrical input pins, tested per MIL-STD-883G, Method 3015.4 /ESD22-A114-A (HBM). However, normal ESD precautions are still required during the handling of this module.



**LASER SAFETY**

This is a Class1 Laser Product according to IEC 60825-1:2007. This product complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated (June 24, 2007).

The optical ports of the module need to be terminated with an optical connector or with a dust plug in order to avoid contamination.

## 1. Overview

SBU45080GExD is a high-performance transceiver module for Gigabit Ethernet data links over one single mode fibre. The maximum reach<sup>1</sup> is 80km, with 26dB end of life (EOL) power budget. The transmitter is a 1490nm DFB laser, the receiver is a 1550nm PIN photodiode. Consequently, a module with a 1550nm transmitter and a 1490nm receiver is required at the opposite side of the link. The recommended counterpart is SBD54080GExD.

This transceiver module is compliant with the Small Form-factor Pluggable (SFP) Multisource Agreement (MSA) and hot pluggable. Always contact Skylane Optics® commercial agents for compatibility with different equipment platforms.

## 2. Features

- SFP Multi-Source Agreement compliant (INF-8074)
- Hot pluggable SFP footprint
- Serial ID functionality supported according to (SFF-8472)
- Single LC connector
- 1490nm DFB transmitter, 1550nm PIN receiver
- 80km point-to-point transmission on single mode fibre
- Operating temperature range 0°C to 70°C or -40°C to 85°C
- Low power dissipation (<1W)
- Digital diagnostics monitoring (DDM)

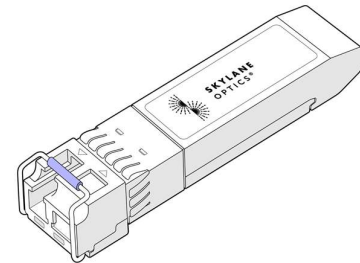


Figure 1. SFP Single Fiber (non-binding illustration)

## 3. Applications

- Gigabit Ethernet
- 1x Fiber Channel

## 4. Optical Interface

P/N	Wavelength [nm]	Optical Output Power <sup>2</sup> [dBm]	Optical Receiver Sensitivity <sup>3</sup> [dBm]	Optical Receiver Overload <sup>4</sup> [dBm]	Power Budget <sup>2</sup> [dB]
SBU45080GExD	Tx 1490 nm Rx 1550 nm	0 to 5	≤ -26	-3	≥ 26

1. Distance is estimated assuming typical optical losses after decent quality fiber deployment; Only optical budget value is guaranteed  
 2. EOL, over operating temperature range, together with SBD54080GExD  
 3. Measured with 1.25Gbps PRBS 2<sup>-1</sup>, ER=9dB, BER<10<sup>-12</sup>  
 4. The optical input to the receiver should not exceed this value. Transmitters must never be directly connected to receivers before ensuring that proper optical attenuation is used.

## 5. Technical Parameters

5.1. Recommended Operating Conditions					
Parameter	Min	Typ	Max	Unit	Notes
Storage temperature	-40		85	°C	
Operating Case Temperature	0		70	°C	SBU45080GE0D
	-40		85		SBU45080GE2D
Relative Humidity	5		95	%	Noncondensing
Power Supply Voltage	3.15	3.3	3.45	V	
Power Supply Current			300	mA	

5.2. Transmitter Optical Specifications					
Parameter	Min	Typ	Max	Unit	Notes
Average Output Power	0		5	dBm	5
Centre Wavelength	1470	1490	1510	nm	
Extinction Ratio	9			dB	
Spectral Width (-20dB)			1	nm	

5. Output power coupled into a 9/125 μm single-mode fibre

5.3. Receiver Optical Specifications					
Parameter	Min	Typ	Max	Unit	Notes
Receiver Sensitivity			-26	dBm	6
Receiver Overload	-3			dBm	6
Wavelength of Operation	1530	1550	1570	nm	

6. Measured with 1.25Gbps PRBS 2<sup>7</sup>-1, ER=9dB, BER≤10<sup>-12</sup>

## 6. Transceiver Electrical Pad Layout

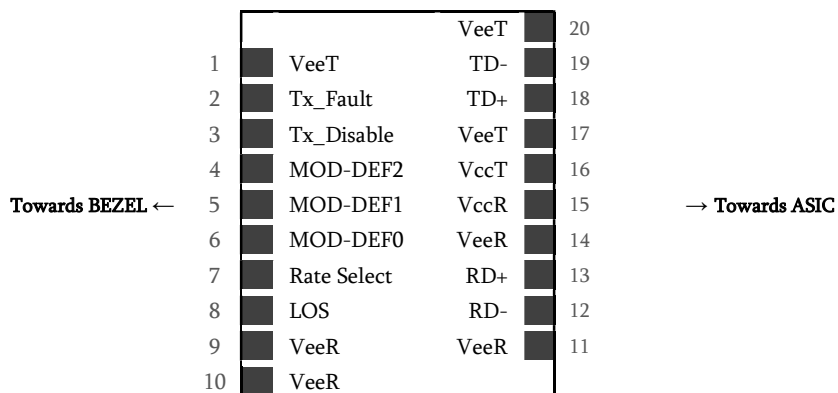


Figure 2. Transceiver Electrical Pad Layout



## 9. Ordering Information

Part Number	Description
SBU45080GE0D	SFP single fibre downstream, Tx 1550nm (DFB), Rx 1490nm (PIN), maximum distance 80km, power budget 26dB, Gigabit Ethernet, <b>LC connector, 0°C to 70°C</b> , DDM
SBU45080GE2D	SFP single fibre downstream, Tx 1550nm (DFB), Rx 1490nm (PIN), maximum distance 80km, power budget 26dB, Gigabit Ethernet, <b>LC connector, -40°C to 85°C</b> , DDM

## 10. Document Revision Information

Revision	Description
A	Initial release
B	Non-DDM variants removed. Some key parameter values updated to reflect current hardware. Variants with SC interface removed

Skylane Optics® supplies a broad range of optical transceivers. Our engineers work closely with our customers to find the best solutions for every application. We are committed to provide high quality products and services to our customers.

For questions on this product please contact:  
[support@skylaneoptics.com](mailto:support@skylaneoptics.com)

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