



SBU35040GE0DAA4

Cisco® GLC-BX-U-40 Compatible 1000Base-BX SFP Transceiver (SMF, 1310nmTx/1550nmRx, 40km, LC, DOM)

Product Description

This Cisco® GLC-BX-U-40 compatible SFP transceiver provides 1000Base-BX throughput up to 40km over single-mode fiber (SMF) using a wavelength of 1310nmTx/1550nmRx via an LC connector. It is guaranteed to be 100% compatible with the equivalent Cisco® transceiver. This easy to install, hot swappable transceiver has been programmed, uniquely serialized and data-traffic and application tested to ensure that it will initialize and perform identically. Digital optical monitoring (DOM) support is also present to allow access to real-time operating parameters. We stand behind the quality of our products and proudly offer a limited lifetime warranty.

Skylane's transceivers are RoHS compliant and lead-free.

Features:

- INF-8074 and SFF-8472 Compliance
- Uncooled DFB transmitter and PIN receiver
- Simplex LC Connector
- Commercial Temperature 0 to 70 Celsius
- Single-mode Fiber
- Hot Pluggable
- Excellent ESD Protection
- Metal with Lower EMI
- RoHS Compliant and Lead Free



Applications:

- 1000Base-BX Ethernet
- Access (FTTx) and Enterprise
- 1x Fibre Channel

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 /JESD22-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.

Absolute Maximum Ratings

Parameter	Symbol	Min.	Max.	Unit
Maximum Supply Voltage	V _{CC}	-0.5	4.0	V
Storage Temperature	T _S	-40	85	°C
Operating Case Temperature	T _C	-5	70	°C
Operating Humidity	RH	5	85	%
Receiver Power	R _{MAX}		3	dBm
Maximum Bitrate	B _{max}		1.25	Gbps

Electrical Characteristics (TOP=25°C, V_{CC}=3.3Volts)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Power Supply Voltage	V _{CC}	3.15	3.30	3.43	V	
Power Supply Current	I _{CC}			303	mA	
Power Consumption	P _{DISS}			1	W	
Transmitter						
Differential data input swing	V _{in,pp}	120		850	mV	
Input differential impedance	Z _{in}	80	100	120	Ω	
Receiver						
Differential data output swing	V _{out, pp}	300		850	mV	
Output differential impedance	Z _{in}	80	100	120	Ω	

Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Transmitter						
Optical Power (average)	P _{AVE}	-5		3	dBm	1
Optical Extinction Ratio	ER	9			dB	
Optical Wavelength	Tλ	1260	1310	1360	nm	
Insertion loss	IL		1.2			
Receiver						
Receiver Sensitivity (average)	R _{AVE}			-25	dBm	3
Receiver overload	P _{max}	3			dBm	4
Receiver wavelength	Rλ	1530		1570	nm	

Notes:

1. Coupled into a Single-mode fibre
2. Per IEEE 802.3ah specification
3. Average power, back-to-back, @1.25Gbps, BER 1E-12, PRBS 231-1.
4. Exceeding the Receiver overload can physically damage the module. Please use appropriate attenuation.

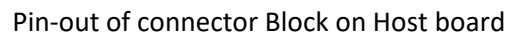
Pin Descriptions

Pin	Symbol	Name/Descriptions	Ref.
1	VeeT	Transmitter Ground (Common with Receiver Ground).	1
2	TX Fault	Transmitter Fault. LVTTTL-O	2
3	TX Disable	Transmitter Disable. Laser output disabled on high or open. LVTT-I.	3
4	SDA	2-Wire Serial Interface Data Line (Same as MOD-DEF2 in INF-8074i). LVTTTL-I/O.	
5	SCL	2-Wire Serial Interface Data Line (Same as MOD-DEF2 in INF-8074i). LVTTTL-I.	
6	MOD_ABS	Module Absent, Connect to VeeT or VeeR in Module.	4
7	RS0	Rate Select 0. Not used	5
8	LOS	Loss of Signal indication. Logic 0 indicates normal operation. LVTTTL-O.	2
9	RS1	Rate Select 1. Not used	5
10	VeeR	Receiver Ground (Common with Transmitter Ground).	1
11	VeeR	Receiver Ground (Common with Transmitter Ground).	1
12	RD-	Receiver Inverted DATA out. AC Coupled. CML-O.	
13	RD+	Receiver Non-inverted DATA out. AC Coupled. CML-O.	
14	VeeR	Receiver Ground (Common with Transmitter Ground).	1
15	VccR	Receiver Power Supply.	
16	VccT	Transmitter Power Supply.	
17	VeeT	Transmitter Ground (Common with Receiver Ground).	1
18	TD+	Transmitter Non-Inverted DATA in. AC Coupled. CML-I.	
19	TD-	Transmitter Inverted DATA in. AC Coupled. CML-O.	
20	VeeT	Transmitter Ground (Common with Receiver Ground).	1

Notes:

1. The module signal ground contacts, VeeR and VeeT, should be isolated from the module case.
2. This contact is an open collector/drain output and should be pulled up to the Vcc_Host with resistor in the range 4.7KΩ to 10KΩ. Pull ups can be connected to one or several power supplies, however the host board design shall ensure that no module contract has voltage exceeding module VccT/R +0.5.V.
3. Tx_Disable is an input contact with a 4.7KΩ to 10KΩ pull-up resistor to VccT inside module.
4. Mod_ABS is connected to VeeT or VeeR in the SFP+ module. The host may pull the contract up to

5. Internally pulled down per SFF-8431



The schematic diagram illustrates the internal components and external connections of the SerDes IC. Key components include:

- LD Driver:** Connected to Tx_DISABLE (pin 3) and Tx_FAULT (pin 2). It drives the TD+ (pin 18) and TD- (pin 19) lines, which are terminated with $Z=50\Omega$.
- POST Amp:** Receives RD- (pin 12) and RD+ (pin 13) signals, which are also terminated with $Z=50\Omega$. It drives the RD+ and RD- lines, which are terminated with $Z=50\Omega$ and a 100Ω load. The output is labeled "depending on SERDES".
- EEPROM:** Connected to MOD_AB3 (pin 6), SCL (pin 5), and SDA (pin 4). It is also connected to VccT (pin 16) and VccR (pin 15) via $30K\Omega$ resistors (RS1 and RS0).
- Power and Ground:** VccT (pin 16) and VccR (pin 15) are connected to Vcc 3.3V. Ground connections are shown for pins 1, 10, 11, 14, 9, and 7.
- Rate Select:** TX Rate Select (pin 9) and RX Rate Select (pin 7) are connected to Vcc 3.3V via $30K\Omega$ resistors.
- Other Pins:** Pin 8 (LOS) is connected to LOSS OF SIGNAL. Pin 17 is connected to Vcc 3.3V. Pin 18 is connected to TD+. Pin 19 is connected to TD-. Pin 12 is connected to RD-. Pin 13 is connected to RD+. Pin 14 is connected to Vcc 3.3V. Pin 15 is connected to VccR. Pin 16 is connected to VccT. Pin 17 is connected to Vcc 3.3V. Pin 18 is connected to TD+. Pin 19 is connected to TD-. Pin 20 is connected to Vcc 3.3V. Pin 21 is connected to Vcc 3.3V. Pin 22 is connected to Vcc 3.3V. Pin 23 is connected to Vcc 3.3V. Pin 24 is connected to Vcc 3.3V. Pin 25 is connected to Vcc 3.3V. Pin 26 is connected to Vcc 3.3V. Pin 27 is connected to Vcc 3.3V. Pin 28 is connected to Vcc 3.3V. Pin 29 is connected to Vcc 3.3V. Pin 30 is connected to Vcc 3.3V. Pin 31 is connected to Vcc 3.3V. Pin 32 is connected to Vcc 3.3V. Pin 33 is connected to Vcc 3.3V. Pin 34 is connected to Vcc 3.3V. Pin 35 is connected to Vcc 3.3V. Pin 36 is connected to Vcc 3.3V. Pin 37 is connected to Vcc 3.3V. Pin 38 is connected to Vcc 3.3V. Pin 39 is connected to Vcc 3.3V. Pin 40 is connected to Vcc 3.3V. Pin 41 is connected to Vcc 3.3V. Pin 42 is connected to Vcc 3.3V. Pin 43 is connected to Vcc 3.3V. Pin 44 is connected to Vcc 3.3V. Pin 45 is connected to Vcc 3.3V. Pin 46 is connected to Vcc 3.3V. Pin 47 is connected to Vcc 3.3V. Pin 48 is connected to Vcc 3.3V. Pin 49 is connected to Vcc 3.3V. Pin 50 is connected to Vcc 3.3V. Pin 51 is connected to Vcc 3.3V. Pin 52 is connected to Vcc 3.3V. Pin 53 is connected to Vcc 3.3V. Pin 54 is connected to Vcc 3.3V. Pin 55 is connected to Vcc 3.3V. Pin 56 is connected to Vcc 3.3V. Pin 57 is connected to Vcc 3.3V. Pin 58 is connected to Vcc 3.3V. Pin 59 is connected to Vcc 3.3V. Pin 60 is connected to Vcc 3.3V. Pin 61 is connected to Vcc 3.3V. Pin 62 is connected to Vcc 3.3V. Pin 63 is connected to Vcc 3.3V. Pin 64 is connected to Vcc 3.3V. Pin 65 is connected to Vcc 3.3V. Pin 66 is connected to Vcc 3.3V. Pin 67 is connected to Vcc 3.3V. Pin 68 is connected to Vcc 3.3V. Pin 69 is connected to Vcc 3.3V. Pin 70 is connected to Vcc 3.3V. Pin 71 is connected to Vcc 3.3V. Pin 72 is connected to Vcc 3.3V. Pin 73 is connected to Vcc 3.3V. Pin 74 is connected to Vcc 3.3V. Pin 75 is connected to Vcc 3.3V. Pin 76 is connected to Vcc 3.3V. Pin 77 is connected to Vcc 3.3V. Pin 78 is connected to Vcc 3.3V. Pin 79 is connected to Vcc 3.3V. Pin 80 is connected to Vcc 3.3V. Pin 81 is connected to Vcc 3.3V. Pin 82 is connected to Vcc 3.3V. Pin 83 is connected to Vcc 3.3V. Pin 84 is connected to Vcc 3.3V. Pin 85 is connected to Vcc 3.3V. Pin 86 is connected to Vcc 3.3V. Pin 87 is connected to Vcc 3.3V. Pin 88 is connected to Vcc 3.3V. Pin 89 is connected to Vcc 3.3V. Pin 90 is connected to Vcc 3.3V. Pin 91 is connected to Vcc 3.3V. Pin 92 is connected to Vcc 3.3V. Pin 93 is connected to Vcc 3.3V. Pin 94 is connected to Vcc 3.3V. Pin 95 is connected to Vcc 3.3V. Pin 96 is connected to Vcc 3.3V. Pin 97 is connected to Vcc 3.3V. Pin 98 is connected to Vcc 3.3V. Pin 99 is connected to Vcc 3.3V. Pin 100 is connected to Vcc 3.3V.

Mechanical Specifications

Small Form Factor Pluggable (SFP) transceivers are compatible with the dimensions defined by the SFP Multi-Sourcing Agreement (MSA).



EEPROM Information

EEPROM memory map specific data field description is as below:

2 wire address 1010000X (A0h)		2 wire address 1010001X (A2h)	
0	Serial ID Defined by SFP MSA (96 bytes)	0	Alarm and Warning Thresholds (56 bytes)
95		55	Cal Constants (40 bytes)
127	Vendor Specific (32 bytes)	95	Real Time Diagnostic Interface (24 bytes)
	Reserved, SFF8079 (128 bytes)	119	Vendor Specific (8 bytes)
255		127	User Writable EEPROM (120 bytes)
		247	Vendor Specific (8 bytes)
		255	

About Skylane Optics

Skylane is a leading provider of transceivers for optical communication.

We offer an extensive portfolio for the enterprise, access, datacenter and metropolitan fiber optical market as well as for smart home applications and home networks.

We cover the European, South American and North American market with a strong partner network and have offices in Belgium, Brazil, Sweden and USA.

Our offerings are characterized by high quality and performance. In combination with our strong technical support, we enable our customers to build cost optimized network solutions.

We offer an extensive range of high-quality products including transceivers (Optical and copper), Active Optical Cable (AOC), Direct Attach Cable (DAC), Mux/Demux, Coding Box.

