

XBR-8GFC-40KM-5655-C

Brocade® (Formerly) XBR-8GFC-40KM-5655 Compatible TAA 10GBase-DWDM SFP+ Transceiver (SMF, 1556.56nm, 40km, LC, DOM)

Features:

- SFF-8432 and SFF-8472 Compliance
- Duplex LC Connector
- Temperature-stabilized EML transmitter and PIN receiver
- Single-mode Fiber
- Commercial Temperature 0 to 70 Celsius
- Hot Pluggable
- Metal with Lower EMI
- Excellent ESD Protection
- RoHS Compliant and Lead Free



Applications:

- 10x Gigabit Ethernet over DWDM
- 8x/10x Fibre Channel
- Access, Metro and Enterprise

Product Description

This Brocade® (Formerly) XBR-8GFC-40KM-5655 compatible SFP+ transceiver provides 10GBase-DWDM throughput up to 40km over single-mode fiber (SMF) using a wavelength of 1556.56nm via an LC connector. It is guaranteed to be 100% compatible with the equivalent Brocade® (Formerly) 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. This transceiver is Trade Agreements Act (TAA) compliant. We stand behind the quality of our products and proudly offer a limited lifetime warranty.

ProLabs' transceivers are RoHS compliant and lead-free.

TAA refers to the Trade Agreements Act (19 U.S.C. & 2501-2581), which is intended to foster fair and open international trade. TAA requires that the U.S. Government may acquire only "U.S.-made or designated country end products.")



SFP Channel Number and Wavelength

Channel	Center Wavelength (nm)	Channel	Center Wavelength (nm)
18	1563.05	40	1545.32
19	1562.23	41	1544.53
20	1561.42	42	1543.73
21	1560.61	43	1542.94
22	1559.79	44	1542.14
23	1558.98	45	1541.35
24	1558.17	46	1540.56
25	1557.36	47	1539.77
26	1556.55	48	1538.98
27	1555.75	49	1538.19
28	1554.94	50	1537.40
29	1554.13	51	1536.61
30	1553.33	52	1535.82
31	1552.52	53	1535.04
32	1551.72	54	1534.25
33	1550.92	55	1533.47
34	1550.12	56	1532.68
35	1549.32	57	1531.90
36	1548.51	58	1531.12
37	1547.72	59	1530.33
38	1546.92	60	1529.55
39	1546.12	61	1528.77

Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Storage Temperature	Tstg	-40		85	°C	
Operating Case Temperature	Tc	0		70	°C	
Bit Error Rate	BER			10E ⁻¹²		
Data Rate	DR	1.2	10.3125	11.3	Gbps	1
Supply Current	Icc		400	450	mA	2
Maximum Supply Voltage	Vmax	3.14	3.3	3.46	V	2

Notes:

1. IEEE 802.3ae.
2. For the electrical power interface.

Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Supply Voltage	Vcc	3.14	3.3	3.46	V	
Transmitter						
Input Differential Impedance	RIN		100		Ω	
Differential Data Input Swing	VIN,pp	300		850	mV	
Transmit Disable Voltage	VD	2		Vcc	V	
Transmit Enable Voltage	VEN	Vee		Vee+0.8	V	
Receiver						
Differential Data Output Swing	VOUT,pp	300		850	mV	
Output Rise Time	Tr	28			ps	
Output Fall Time	Tf	28			ps	
LOS Fault	VLOS_A	2		Host_Vcc	V	
LOS Normal	VLOS_D	Vee		Vee+0.5	V	

Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Transmitter						
Output Optical Power	P _{tx}	-4		4	dBm	1
Optical Center Wavelength	λ_C	$\lambda_C - 0.1$	λ_C	$\lambda_C + 0.1$	nm	2
Extinction Ratio	ER	8.2			dB	
Spectral Width (-20dB)	$\Delta\lambda$			0.6	nm	
Side-Mode Suppression Ratio	SMSR	30			dB	
Relative Intensity Noise	RIN			-128	dB/Hz	
Transmitter Dispersion Penalty	TDP			2	dB	
Launch Power of Off Transmitter	P _{off}			-30	dBm	1
Receiver						
Center Wavelength	λ_C	1260		1600	nm	
Average Receiver Power	P _{rx}	-16		1	dBm	
Receiver Sensitivity @10.3Gbps	R _{x_Sen}			-16	dBm	3
Receiver Reflectance	RR			-27	dBm	
LOS Assert	LOSA	-25			dBm	
LOS De-Assert	LOSD			-18	dBm	
LOS Hysteresis		0.5			dB	

Notes:

1. Average.
2. λ = specified ITU grid wavelength.
3. Measured with the PRBS 2³¹-1 test mode and BER<10⁻¹².

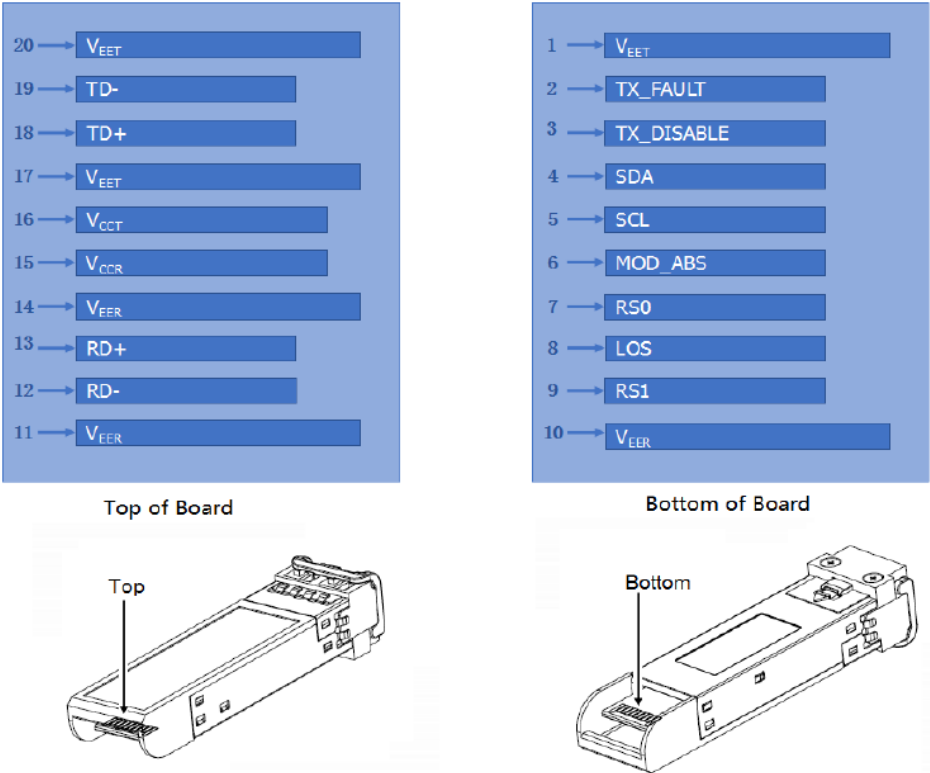
Pin Descriptions

Pin	Symbol	Name/Description	Notes
1	VeeT	Transmitter Ground (Common with Receiver Ground).	1
2	Tx_Fault	Transmitter Fault.	
3	Tx_Disable	Transmitter Disable In. Laser output disabled on “high” or “open.”	2
4	SDA	2-Wire Serial Interface Data.	3
5	SCL	2-Wire Serial Interface Clock.	3
6	MOD_ABS	Module Absent. Grounded within the module.	3
7	RS0	Rate Select 0. Not Used.	
8	LOS	Loss of Signal Indication. “Logic 0” indicates normal operation.	4
9	RS1	Rate Select 1. Not Used.	1
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.	
13	RD+	Receiver Non-Inverted Data Out. AC Coupled.	
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.	
19	TD-	Transmitter Inverted Data In. AC Coupled.	
20	VeeT	Transmitter Ground (Common with Receiver Ground).	1

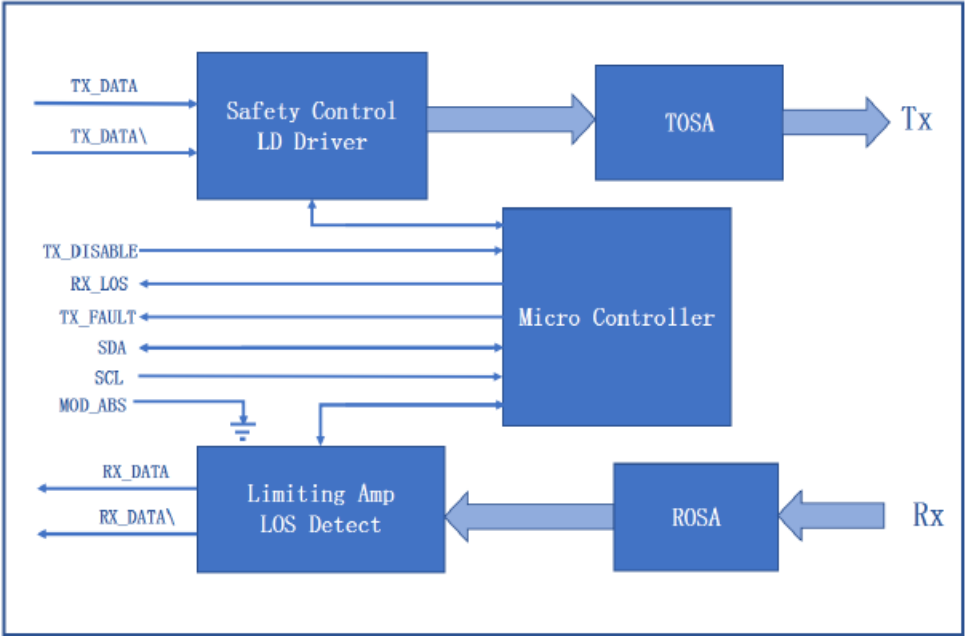
Notes:

1. The circuit ground is isolated from the chassis ground.
2. Disabled: Tdis>2V or open, enabled Tdis<0.8V.
3. Should be pulled up with 4.7k Ω to 10k Ω on the host board to a voltage between 2V and 3.46V.
4. LOS is an open collector output.

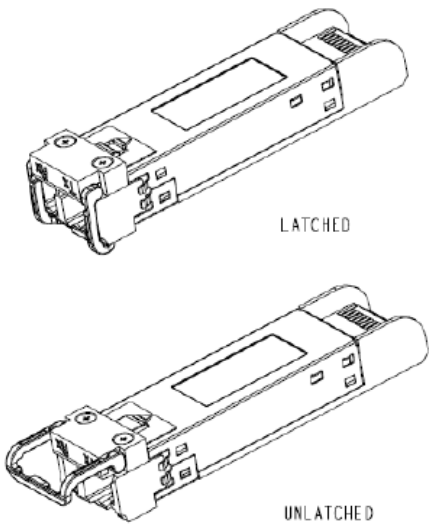
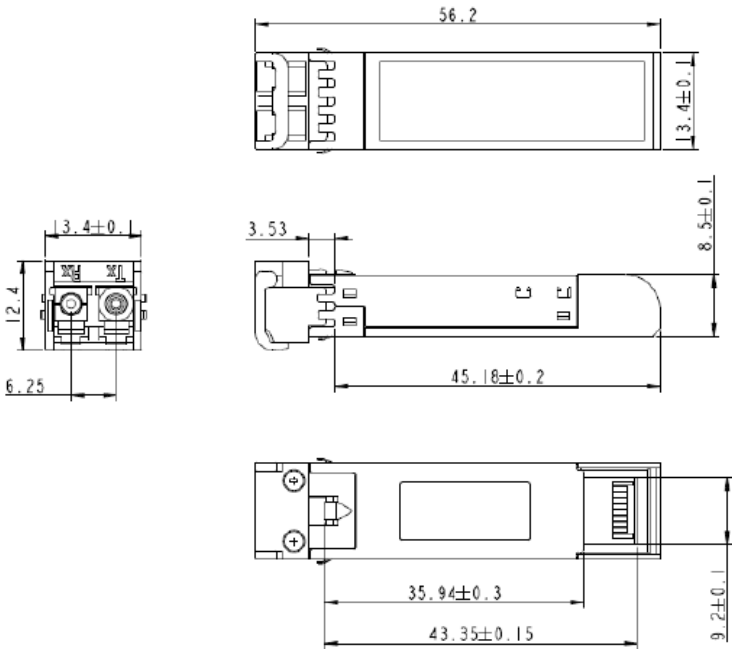
Electrical Pad Layout



Block Diagram



Mechanical Specifications



All dimensions are $\pm 0.2\text{mm}$ unless otherwise specified.
Unit: mm

About ProLabs

Our experience comes as standard; for over 15 years ProLabs has delivered optical connectivity solutions that give our customers freedom and choice through our ability to provide seamless interoperability. At the heart of our company is the ability to provide state-of-the-art optical transport and connectivity solutions that are compatible with over 90 optical switching and transport platforms.

Complete Portfolio of Network Solutions

ProLabs is focused on innovations in optical transport and connectivity. The combination of our knowledge of optics and networking equipment enables ProLabs to be your single source for optical transport and connectivity solutions from 100Mb to 400G while providing innovative solutions that increase network efficiency. We provide the optical connectivity expertise that is compatible with and enhances your switching and transport equipment.

Trusted Partner

Customer service is our number one value. ProLabs has invested in people, labs and manufacturing capacity to ensure that you get immediate answers to your questions and compatible product when needed. With Engineering and Manufacturing offices in the U.K. and U.S. augmented by field offices throughout the U.S., U.K. and Asia, ProLabs is able to be our customers best advocate 24 hours a day.



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