



FCLF8522P2BTL-OPC

Finisar® FCLF8522P2BTL Compatible TAA 10/100/1000Base-TX SFP Transceiver (Copper, 100m, RJ-45, -40 to 85C)

Features

- Up to 1.25Gbps bi-directional data links
- Compliant with IEEE 802.3z, IEEE 802.3u, IEEE 802.3ab
- Compliant with SFP MSA
- Hot-pluggable
- Support 10/100/1000BASE-T operation in host systems with SGMII interface
- RJ-45 connector
- Auto-sense MDI/MDIX
- Single power supply 3.3V
- Operating Temperature: -40 to 85 Celsius
- RoHS Compliant and Lead-Free



Applications:

- 1000Base Ethernet
- Access and Enterprise

Product Description

This Finisar® FCLF8522P2BTL compatible SFP transceiver provides 10/100/1000Base-TX throughput up to 100m over a copper connection via a RJ-45 connector. This TX module supports 10/100/1000Base auto-negotiation and can be configured to fit your needs. It is guaranteed to be 100% compatible with the equivalent Finisar® 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. It is built to meet or exceed the specifications of Finisar®, as well as to comply with MSA (Multi-Source Agreement) standards to ensure seamless network integration. This transceiver is Trade Agreements Act (TAA) compliant. We stand behind the quality of our products and proudly offer a limited lifetime warranty.

OptioConnect's 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.")



Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Data Rate	DR	10		1000	Mb/sec	1
Cable Length	CL			100	m	2
Bit Error Rate	BER			10 ⁻¹²		
Storage Temperature	Tstg	-40		85	°C	3
Supply Current	I _{cc}		370	420	mA	
Maximum Voltage	V _{MAX}			4	V	
Operating Temperature	T _c	-40		85	°C	

Notes:

1. IEEE 802.3 compatible.
2. Category 5 UTP.
3. Ambient temperature.

Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Input Voltage	V _{CC}	3.14	3.3	3.46	V	
Power Consumption	P		1.22	1.38	W	
Single-Ended Input Swing	V _{IN,pp}	250		1200	mV	
Single-Ended Output Swing	V _{OUT,pp}	275		800	mV	
Rise/Fall Time (20-80%)	T _r /T _f		175		ps	
Tx Input Impedance	Z _{IN}		50		Ω	1
Rx Output Impedance	Z _{OUT}		50		Ω	1
Transmitter						
Line Frequency	F _L		125		MHz	1
Tx Output Impedance Differential	Z _{OUT,TX}		100		Ω	2
Rx Input Impedance Differential	Z _{IN,RX}		100		Ω	2
Low-Speed Electrical Signal						
SFP Output - Low	V _{OL}	0		0.5	V	1
SFP Output - High	V _{OH}	Host_V _{CC} -0.5		Host_V _{CC} +0.3	V	1
SFP Input - Low	V _{IL}	0		0.8	V	1
SFP Input - High	V _{IH}	2		V _{CC} +0.3	V	1

Notes:

1. Single-ended.
2. 5-level encoding.
3. For all frequencies between 1MHz and 125MHz.
4. External 4.7kΩ to 10kΩ pull-up resistor required.

Pin Descriptions

Pin	Symbol	Name/Description	Notes
1	VeeT	Transmitter Ground (Common with Receiver Ground).	1
2	Tx_Fault	Transmitter Fault. Not Supported.	
3	Tx_Disable	Transmitter Disable. PHY disabled on “high” or “open.”	2
4	MOD_DEF(2)	Module Definition 2. 2-Wire Serial Interface Data.	3
5	MOD_DEF(1)	Module Definition 1. 2-Wire Serial Interface Clock.	3
6	MOD_DEF(0)	Module Definition 0. Grounded within the module.	3
7	Rate Select	No Connection Required.	
8	LOS	Loss of Signal.	
9	VeeR	Receiver Ground (Common with Transmitter Ground).	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

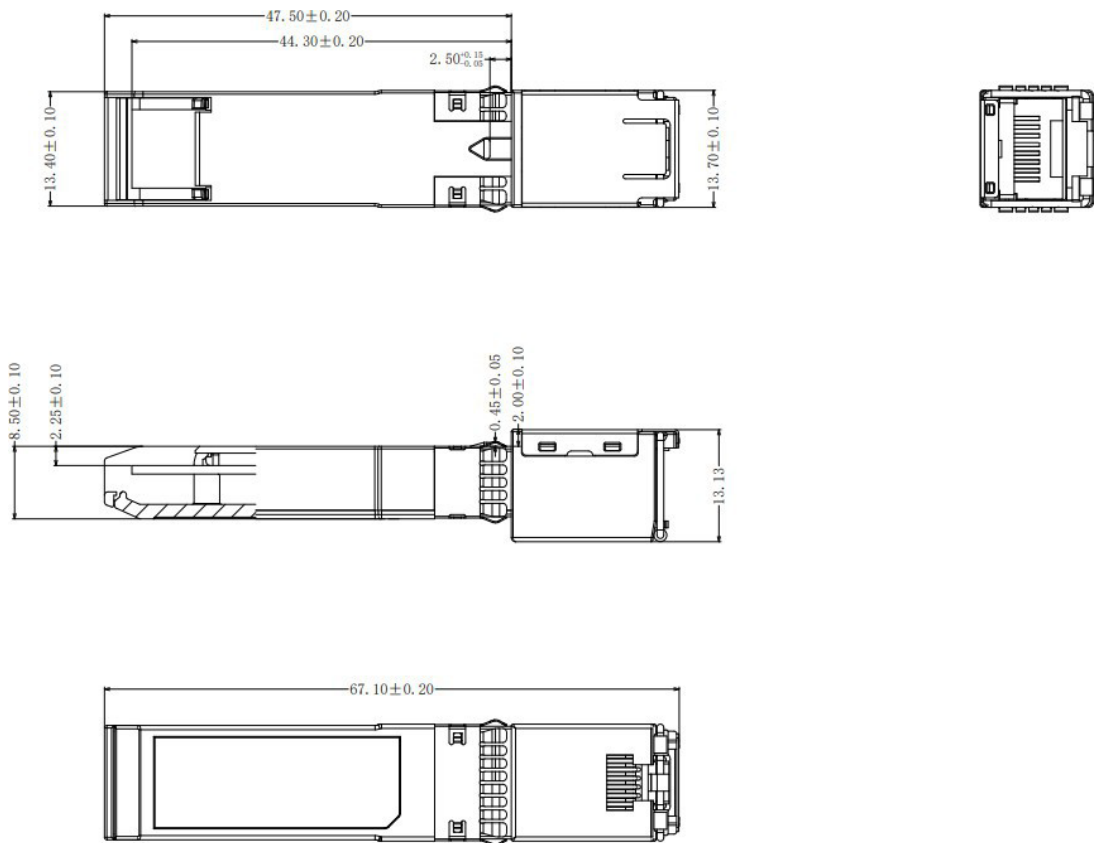
Notes:

1. The circuit ground is connected to the chassis ground.
2. Disabled: $T_{DIS} > 2V$ or open. Enabled: $T_{DIS} < 0.8V$.
3. Should be pulled up with 4.7kΩ to 10kΩ on the host board to a voltage between 2V and 3.6V.

Electrical Pad Layout



Mechanical Specifications



OptioConnect

Innovation for the Future of High-Speed Networking

Who We Are

OptioConnect is reshaping the landscape of communication and high-speed networking through intelligent technology. With a core focus on cutting edge technology, we deliver smarter fiber optic solutions for enterprise networks, data centers, and next-gen telecom infrastructures.

What We Do

At OptioConnect, we fuse advanced engineering with intelligent automation to drive the future of networking. Our AI-integrated solutions are designed to optimize performance and streamline operations with:

- Superior Performance
- Network and traffic optimization
- Intelligent energy management
- Seamless OEM compatibility
- Scalable cost-efficiency

Smarter Networks by Design

Innovation isn't just a goal—it's our process. We embed AI and machine learning across our R&D and product lines, enabling adaptive performance, automated tuning, and faster deployment cycles. The result? Networks that don't just work—they learn, evolve, and outperform.

Our Team

Our engineers, data scientists, and network architects bring decades of experience and a future-focused mindset. We provide hands-on support with intelligent insights that turn complex challenges into simple solutions.

Our Mission

To deliver AI-enhanced connectivity that reduces cost, increases speed, and maximizes efficiency—empowering our partners to operate at the forefront of a rapidly evolving digital world.

Let's Connect

Discover how OptioConnect's intelligent infrastructure solutions can power your network's next leap forward.

www.optioconnect.com | info@optioconnect.com

