OPT52-55A2xxxR

52Mbps TTL 1x9 Optical Transceiver, Single Mode, 1550nm, 120km, Duplex SC/ST/FC

Features

- SC/ST/FC receptacle optical interface
- Single +3.3V or +5V Power Supply
- 1x9 footprint package
- TTL Inputs & Outputs
- 1550nm DFB Laser Diode and InGaAs/InP PIN Photodiode
- Super low power consumption design, applied to some special require
- Data rate up to 52Mbps
- TTL Signal Detection Output
- RoHS Compliance
- Operating case temperature:
  Standard: 0 to +70°C
  Extended: -10 to +85°C
  Industrial: -40 to +85°C

Applications

- SONET/SDH Equipment Interconnect

Description

The OPT52-55A2xxxR family of 1×9 optical transceivers from Optcore provide the network system designer and manufacturers with products to implement a range of SONET/SDH equipment designs at the low data rate of 52Mbps. This series optical transceivers are all supplied in the industry standard 1×9 SIP package style with a duplex SC, ST, FC connector interface. They are high performance, cost effective optical transceiver modules with TTL data interface that supporting data-rate of 52Mbps and 120km transmission distance over single mode fiber cable (SMF). The OPT52-55A2xxxR series TTL 1×9 optical transceivers help you convert copper signals to the optical fiber. They are usually used for ultra long distance data communications over fiber such as ATM/SONET/SDH applications.

The 52Mbps 1x9 120km transceiver is provided with 3 types operating temperature for different applications:

- Standard type (0~70ºC) for commonly commercial application, provided with the lowest cost
- Extended type (-10~85ºC) for extended temperature application, provides wider operating temperature
- Industrial grade(-40~85ºC) is made with robust and reliable components, to meet the needs of Industrial application under hardened environmental conditions.

Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit
Supply Voltage	Vcc (3.3V)	0	4.0	V
	Vcc (5V)	0	6.0	V
Storage Temperature	Ts	-40	+85	°C
Operating Humidity	-	5	95	%

Recommended Operating Conditions

Parameter		Symbol	Min	Typical	Max	Unit
Operating Case Temperature	Standard	Tc	0		+70	°C
	Extended		-10		+85	°C
	Industrial		-40		+85	°C
Power Supply Voltage		Vcc	4.75	5.0	5.25	V
		Vcc	3.14	3.3	3.47	V
Power Supply Current		$I_{TX}+I_{RX}$		150	250	mA
Data Rate			2		52	Mbps

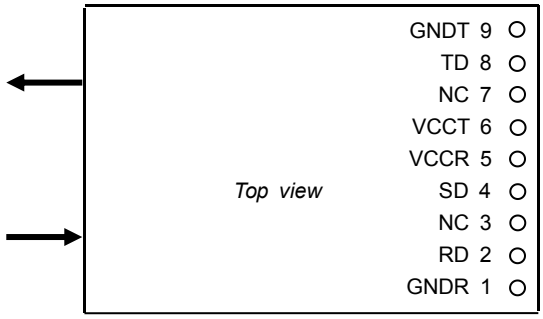
Optical Characteristics

Parameter	Symbol	Min	Typical	Max	Unit	Notes
Transmitter						
Centre Wavelength	λ	1520	1550	1570	nm	
Spectral Width	Δλ			3	nm	
Average Output Power	Pout	-5	-3	-1	dBm	
Extinction Ratio	ER	10			dB	
Receiver						
Receiver Sensitivity				-37	dBm	
Receiver Overload		0			dBm	
LOS De-Assert	LOS_D			-37	dBm	
LOS Assert	LOS_A	-47			dBm	

Pin Definitions

Pin	Signal Name	Remark	Description
1	GNDR		Receiver section grounded
2	RD	TTL/LVTTL	Date output of receiver section
3	NC		No connect
4	SD	TTL/LVTTL	Optical alarm of receiver section, low level when no light
5	VccR		Positive power of receiver section, normally +5V and 3.3V
6	VccT		Positive power of transmitter section, normally +5V and 3.3V
7	NC		No connect
8	TD	TTL/LVTTL	Date input of transmitter section
9	GNDT		Transmitter section grounded

Topview diagram



Mechanical Dimensions

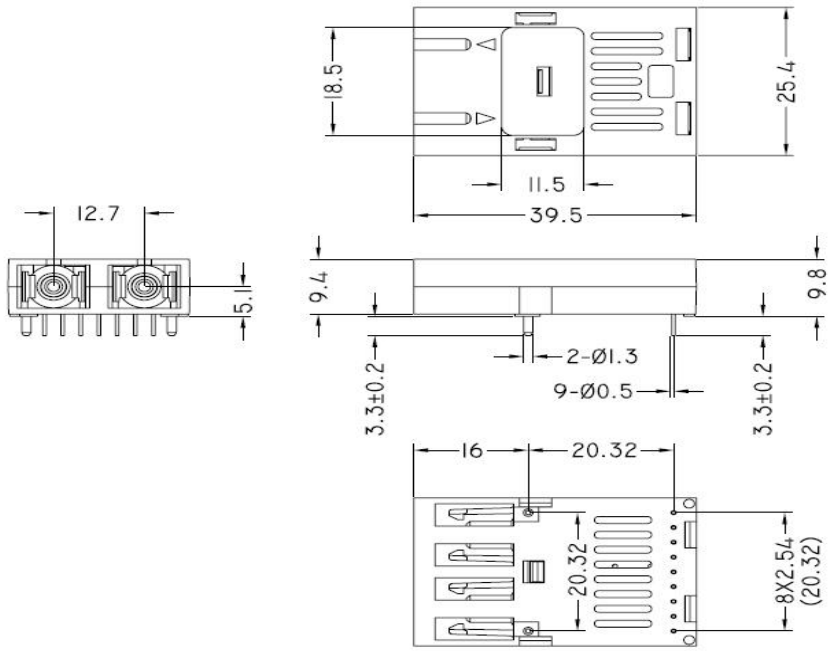


Figure 1. SC Connector

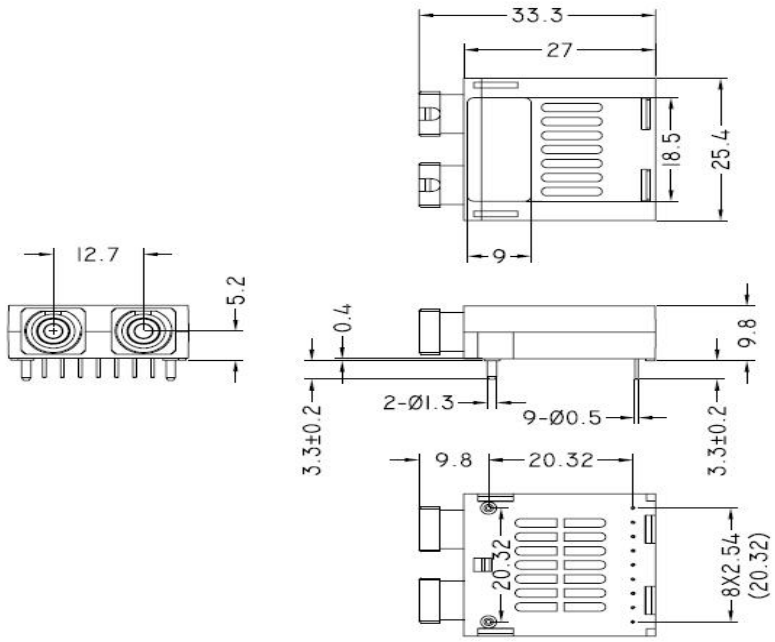


Figure 2. FC Connector

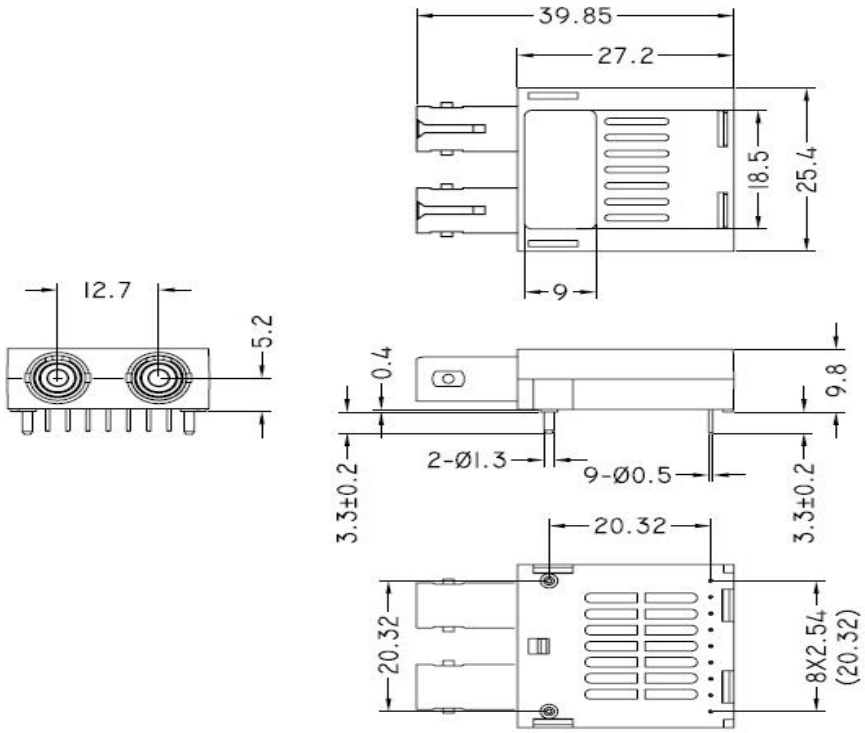


Figure 3. ST Connector

Ordering information

52Mbps 1x9 TTL Single mode 1550nm 120km Transceiver (Commercial Temperature)

Part number	Voltage	Connector	Operating Temperature
OPT52-55A25SCR	5V	Duplex SC	0~70 ºC
OPT52-55A25TCR	5V	Duplex ST	0~70 ºC
OPT52-55A25FCR	5V	Duplex FC	0~70 ºC
OPT52-55A25PCR	5V	Duplex FC pigtail	0~70 ºC
OPT52-55A23SCR	3.3V	Duplex SC	0~70 ºC
OPT52-55A23TCR	3.3V	Duplex ST	0~70 ºC
OPT52-55A23FCR	3.3V	Duplex FC	0~70 ºC
OPT52-55A23PCR	3.3V	Duplex FC pigtail	0~70 ºC

52Mbps 1x9 TTL Single mode 1550nm 120km Transceiver (Extended Temperature)

Part number	Voltage	Connector	Operating Temperature
OPT52-55A25SER	5V	Duplex SC	-10~85 ºC
OPT52-55A25TER	5V	Duplex ST	-10~85 ºC
OPT52-55A25FER	5V	Duplex FC	-10~85 ºC
OPT52-55A25PER	5V	Duplex FC pigtail	-10~85 ºC
OPT52-55A23SER	3.3V	Duplex SC	-10~85 ºC
OPT52-55A23TER	3.3V	Duplex ST	-10~85 ºC
OPT52-55A23FER	3.3V	Duplex FC	-10~85 ºC
OPT52-55A23PER	3.3V	Duplex FC pigtail	-10~85 ºC

52Mbps 1x9 TTL Single mode 1550nm 120km Transceiver (Industrial Temperature)

Part number	Voltage	Connector	Operating Temperature
OPT52-55A25STR	5V	Duplex SC	-40~85 ºC
OPT52-55A25TTR	5V	Duplex ST	-40~85 ºC
OPT52-55A25FTR	5V	Duplex FC	-40~85 ºC
OPT52-55A25PTR	5V	Duplex FC pigtail	-40~85 ºC
OPT52-55A23STR	3.3V	Duplex SC	-40~85 ºC
OPT52-55A23TTR	3.3V	Duplex ST	-40~85 ºC
OPT52-55A23FTR	3.3V	Duplex FC	-40~85 ºC
OPT52-55A23PTR	3.3V	Duplex FC pigtail	-40~85 ºC

Warnings

Process plug

The transceiver optics is supplied with a dust cover. This plug protects the transceiver optics during standard manufacturing processes by preventing contamination from air borne particles.It is recommended that the dust cover remain in the transceiver whenever an optical fiber connector is not inserted.

Handling Precautions

The transceiver optics is susceptible to damage as a result of electrostatic discharge (ESD). A static free environment is highly recommended. Follow guidelines according to proper ESD procedures.

Laser Safety

The transceiver optics is a Class 1 laser product per international standard IEC 60825-1. Radiation emitted by laser devices can be dangerous to human eyes. Avoid eye exposure to direct or indirect radiation.

For more product information, visit us on the web at www.optcore.net