OPT1250-55805xxR

1.25Gbps Single Mode 1x9 Fiber Optic Transceiver,1550nm,80km,5V,Duplex SC/ST/FC

Features

- Differential PECL Inputs & Outputs
- Single 5V Power Supply
- PECL Signal Detection Output
- Up to 80km with 9/125um SMF
- 1550nm DFB Transmitter and PIN receiver
- Industry Standard 1×9 Package
- Duplex SC/ST/FC Connector
- RoHS Compliant
- Operating case temperature: Standard: 0 to +70°C Industrial: -40 to +85°C

Applications

- Switch to Switch Interface
- Switched Backbone Applications
- Single Mode Fiber Media Converter
- 1000BASE-ZX Gigabit Ethernet
- 1x Fiber Channel
- Industrial Grade for industrial hardened Ethernet

Description

The OPT1250-55805xxR series are high performance and cost-effective fiber optical transceiver modules for high-speed communication applications such as 1000Base-ZX Gigabit Ethernet and 1x Fibre channel. The 1x9 transceivers support the maximum transmission distance of 80km via Single-Mode fiber at data rate of 1.25Gb/s. This series fiber optic transceiver are all supplied in the industry standard 1x9 SIP package and operates at the wavelength of 1550nm. The 1x9 transceiver consists of three sections: the transmitter and receiver optical sub-assemblies, an electrical sub-assembly, and the package housing which incorporates a duplex SC or ST or FC connector receptacle. The series provide single 5V power supply. The OPT1250-55805xxR family also provide commercial grade for commonly application and industrial grade for industrial hardened environment application such as industrial Ethernet Switch,Industrial Computing,Industrial media converters and so on. They are all compliant with class 1 FDA ,IEC60825-1 laser safety and RoHS.

Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit	Note
Storage Temperature	Ts	-40	85	℃	-
Power Supply Voltage	Vcc	0.5	4	V	-
Soldering Temperature	-	-	260	℃	10 seconds on leads only

Input Voltage	Vin	GND	Vcc	V	-

Recommended Operating Conditions

Parameter	Symbol	Min.	Typ.	Max.	Units
Power Supply Voltage	Vcc	4.75	5.0	5.25	V
Operating Temperature	Standard	0	-	70	°C
	Industrial	-40	-	85	°C
Data Rate	-	-	1250	-	Mbps
Power Supply Current	Icc	-	150	300	mA

Transmitter Specifications (0ºC < Top < 70ºC, 4.75V < Vcc < 5.25V)

Parameter	Symbol	Min.	Typ.	Max.	Units
Optical					
Optical Transmit Power	Po	-2	-	3	dBm
Optical Center Wavelength	λ_C	1480	1550	1580	nm
Output Spectrum Width	$\Delta\lambda$	-	-	1	nm（RMS)
Extinction Ratio	E_R	30	-	-	dB
Output Eye	Compliance with IEEE802.3z				
Optical Rise Time	t_r	-	-	0.26	ns
Optical Fall Time	t_f	-	-	0.26	ns
Electrical					
Differential Input Voltage	V_{IH}-V_{IL}	0.3	-	2.2	V
Common-mode Input Voltage	V_{COM}-V_{CC}	-1.38	-	-0.47	V
PECL Output Voltage-Low	V_{OL}-V_{CC}	-1.810	-	-1.620	V
PECL Output Voltage-High	V_{OH}-V_{CC}	-1.025	-	-0.880	V

Receiver Specifications (0ºC < Top < 70ºC, 4.75V < Vcc < 5.25V)

Parameter	Symbol	Min.	Typ.	Max.	Units
Optical					
Sensitivity	Sen	-	-	-26	dBm

Maximum Input Power(Saturation)	P_{MAX}	-3	-	-	dBm
Signal Detect – Asserted	P_a	-	-	-26	dBm
Signal Detect – Deasserted	P_d	-35	-	-	dBm
Signal Detect – Hysteresis	P_{hys}	1	-	4	dB
Wavelength of Operation	λ	1100	-	1600	nm
Electrical					
Data Output Voltage – Low	$V_{IL}–V_{CC}$	-1.83	-	-1.555	V
Data Output Voltage – High	$V_{IH}–V_{CC}$	-1.085	-	-0.88	V
Signal Detect Output Voltage - Low	$V_{SIL}–V_{CC}$	-2.0	-	-1.58	V
Signal Detect Output Voltage -High	$V_{SIH}–V_{CC}$	-1.1	-	-0.74	V

Pin Assignment

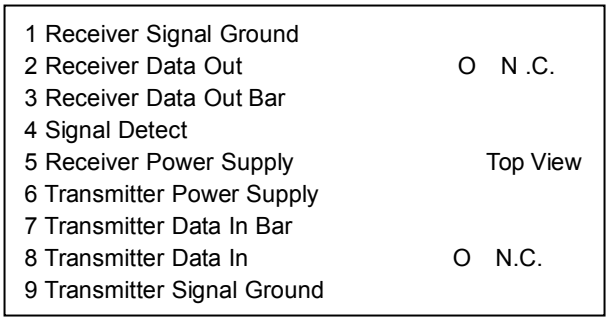

Figure 1. Pin-Out

Mechanical Dimensions

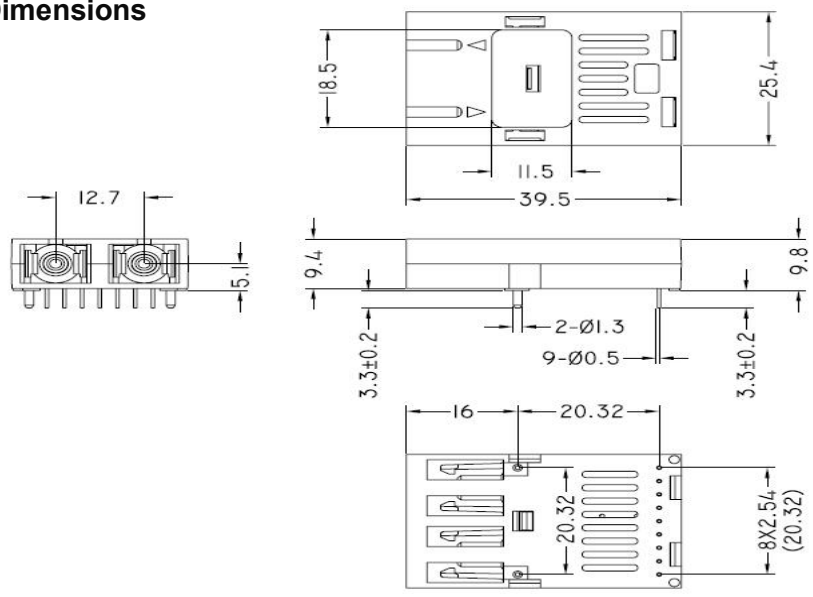

Figure 2. SC Connector

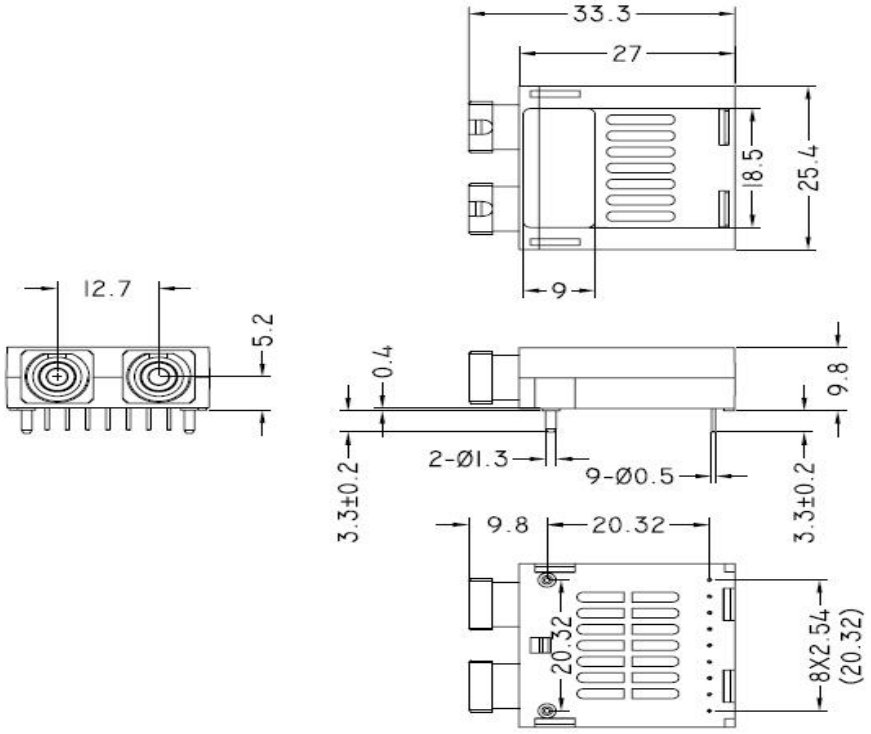

Figure 3. FC Connector

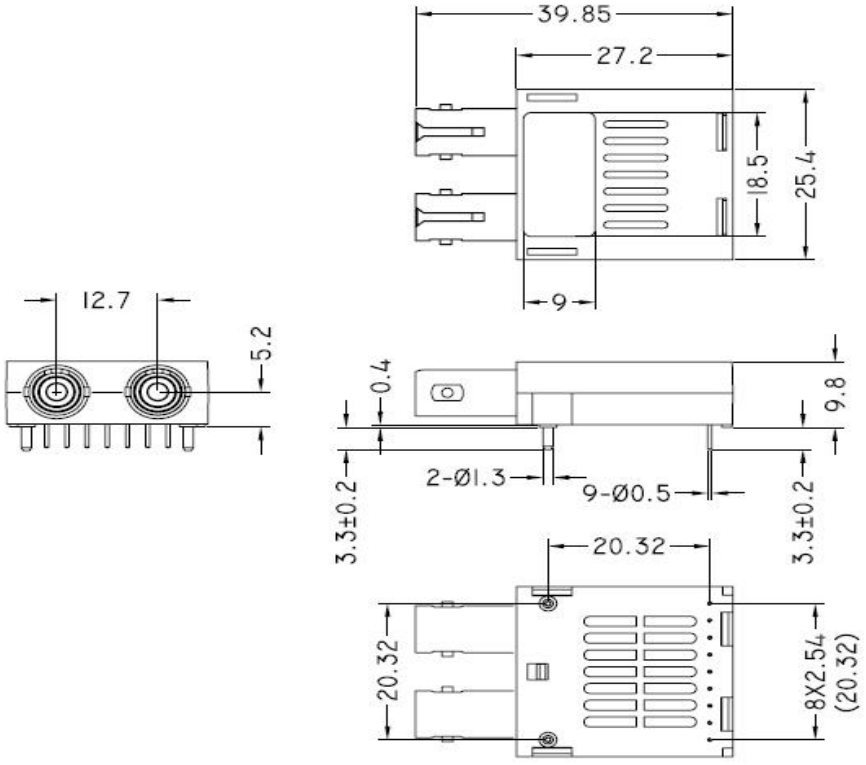

Figure 4. ST Connector

Ordering information

Part number	Description
OPT1250-55805SCR	1.25Gb/s 1x9 Fiber Optic Transceiver,SMF,1550nm,80km,5V,SC
OPT1250-55805TCR	1.25Gb/s 1x9 Fiber Optic Transceiver,SMF,1550nm,80km,5V,ST
OPT1250-55805FCR	1.25Gb/s 1x9 Fiber Optic Transceiver,SMF,1550nm,80km,5V,FC
OPT1250-55805STR	1.25Gb/s 1x9 Industrial Fiber Optic Transceiver,SMF,1550nm,80km,5V,SC,-40~+85℃
OPT1250-55805TTR	1.25Gb/s 1x9 Industrial Fiber Optic Transceiver,SMF,1550nm,80km,5V,ST,-40~+85℃
OPT1250-55805FTR	1.25Gb/s 1x9 Industrial Fiber Optic Transceiver,SMF,1550nm,80km,5V,FC,-40~+85℃

Warnings

Handling Precautions: This device 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: 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