

OPT622-31203XXR

622Mb/s Single Mode 1X9 Optical Transceiver Module, 1310nm, 3.3V, 20km Reach

FEATURES

- Duplex SC/ST/FC Connector
- Differential LVPECL Inputs & Outputs
- Single 3.3V Power Supply
- LVPECL Signal Detection Output
- 1310nm FP Laser
- Up to 20km
- Industry Standard 1×9 Package
- Operating Temperature: Standard: 0~70°C Industrial: -40~85°C

APPLICATIONS

- SONET OC-12 / SDH STM-4 Equipment
- PDH
- Optical-Electrical Interface Conversion

Description

The OPT622-31203XXR is a high performance and cost-effective fibre optical transceiver modules, it is specified for use in SONET OC-12 / SDH STM-4 / ATM 622Mbps applications. The 1x9 optical transceiver module is intended for single mode fiber, operates at a nominal wavelength of 1310nm and complies with the industry standard 1x9 footprint. The 1X9 optical transceiver module consists of a transmitter optical subassembly, a receiver optical subassembly and an electrical subassembly.

Related Products

- OPT622-31403XXR: 622Mbps / SONET OC-12 /SDH STM-4 1310nm 40km duplex SC/ST/FC 1x9 optical transceiver.
- OPT622-55803XXR: 622Mbps / SONET OC-12 /SDH STM-4 1550nm 80km duplex SC/ST/FC 1x9 optical transceiver.

Absolute Maximum Ratings					
Parameter	Symbol	Min.	Max.	Units	Note
Storage Temperature	Ts	-40	85	°C	-
Power Supply Voltage	Vcc	0.5	4	V	-
Soldering Temperature	-	-	260	°C	10 seconds on leads only
Input Voltage	Vin	GND	Vcc	V	-

Recommended Operating Conditions					
Parameter	Symbol	Min.	Typ.	Max.	Units
Power Supply Voltage	V _{cc}	3.1	3.3	3.5	V
Operating Temperature	Top	0	-	70	°C
		-40	-	85	°C
Data Rate	-	-	622	-	Mbps
Power Supply Current	I _{cc}	-	150	250	mA

Transmitter Specifications (0°C < Top < 70°C, 3.1V < V _{cc} < 3.5V)					
Parameter	Symbol	Min.	Typ.	Max.	Units
Optical					
Optical Transmit Power	P _o	-12	-	-3	dBm
Optical Center Wavelength	λ _c	1260	1310	1360	nm
Output Spectrum Width	Δλ	-	-	3	nm (RMS)
Extinction Ratio	E _R	10	-	-	dB
Output Eye	ITU recommendation G.957				
Optical Rise Time	t _r	-	-	0.5	ns
Optical Fall Time	t _f	-	-	0.5	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

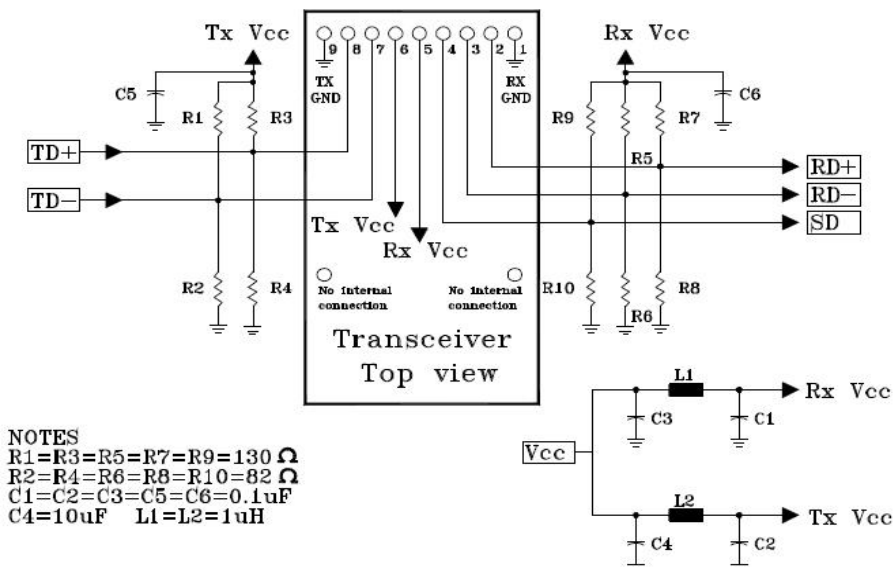
Receiver Specifications (0°C < Top < 70°C, 3.1 V < V _{cc} < 3.5V)					
Parameter	Symbol	Min.	Typ.	Max.	Units
Optical					
Sensitivity	Sen	-	-	-28	dBm

Maximum Input Power(Saturation)	P_{MAX}	-3	-	-	dBm
Signal Detect – Asserted	P_a	-	-	-28	dBm
Signal Detect – Deasserted	P_d	-45	-	-	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

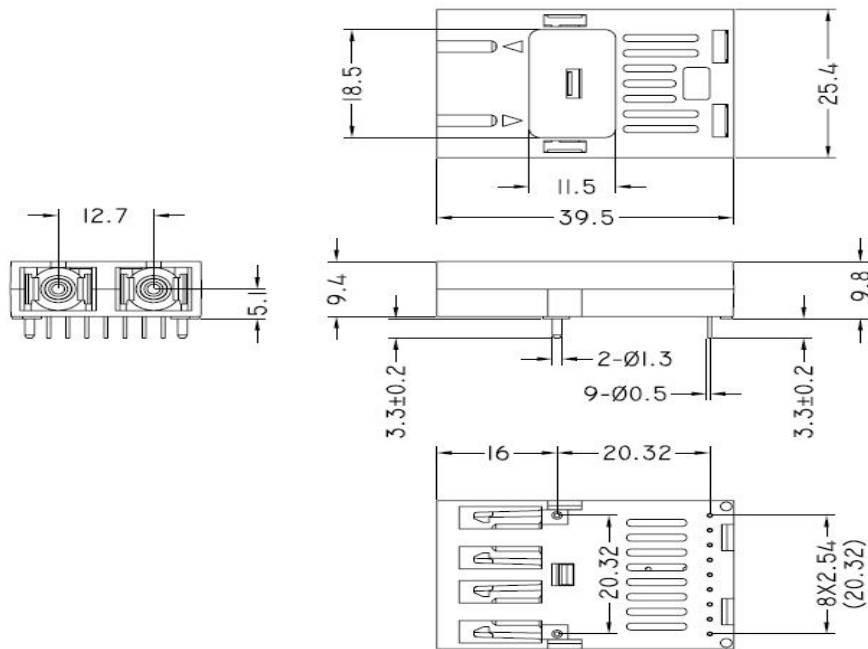
1 Receiver Signal Ground	
2 Receiver Data Out	O N.C.
3 Receiver Data Out Bar	
4 Signal Detect	
5 Receiver Power Supply	Top View
6 Transmitter Power Supply	
7 Transmitter Data In Bar	
8 Transmitter Data In	O N.C.
9 Transmitter Signal Ground	

Recommended Circuit

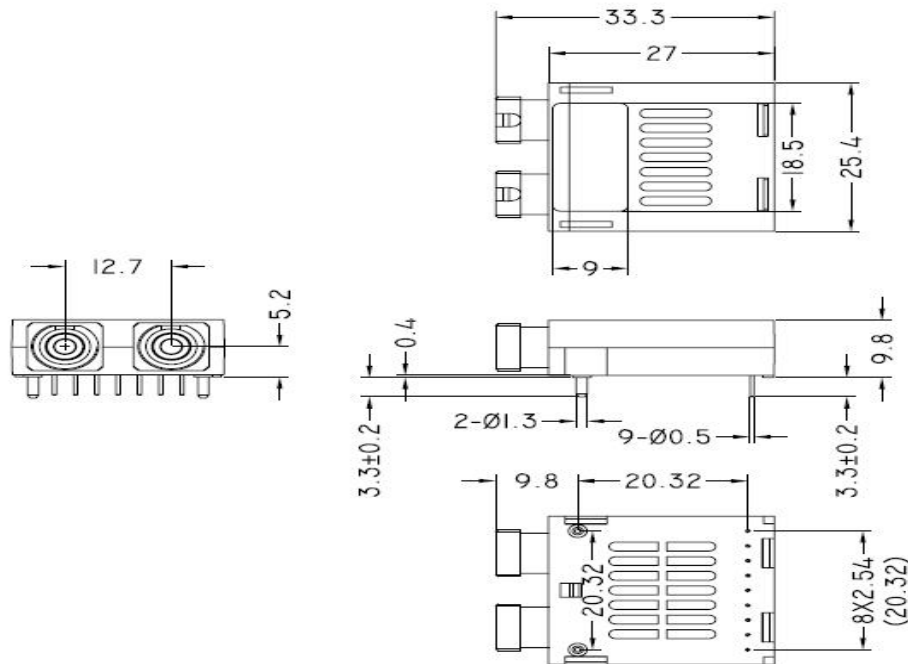


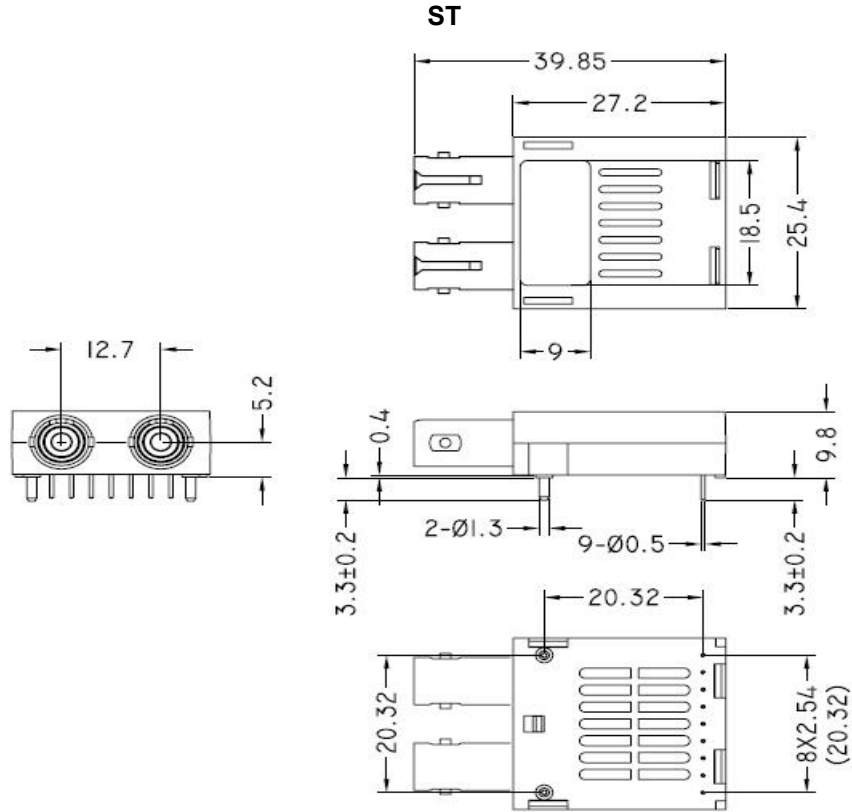
Mechanical Dimensions

SC



FC





Ordering information

Part number	Description
OPT622-31203SCR	1X9 Fiber Optic Transceiver (622Mbps STM-4,1310nm, 20km, SC, 0°C~+70°C)
OPT622-31203TCR	1X9 Fiber Optic Transceiver (622Mbps STM-4,1310nm, 20km, ST, 0°C ~ +70°C)
OPT622-31203FCR	1X9 Fiber Optic Transceiver (622Mbps STM-4,1310nm, 20km, FC, 0°C ~ +70°C)
OPT622-31203STR	1X9 Fiber Optic Transceiver (622Mbps STM-4,1310nm, 20km, SC, -40°C ~ 85°C)
OPT622-31203TTR	1X9 Fiber Optic Transceiver (622Mbps STM-4,1310nm, 20km, ST, -40°C ~ 85°C)
OPT622-31203FTR	1X9 Fiber Optic Transceiver (622Mbps STM-4,1310nm, 20km, FC, -40°C ~ 85°C)

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.

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