

L9-SC315501-60CTI

1×9 155Mbps Bi-Directional Transceiver
Tx1310/Rx1550 SC 60km Reach

Features:

- Integrated single fiber bi-directional optical subassembly
- Operating data rate up to 155Mbps
- Simplex SC optical interface
- Single +3.3V Power Supply
- Multi-sourced 1×9 package
- Very low EMI and certified ESD protection
- Compliant with ROHS
- CML Differential Input/Output and (LV)TTL signal detect
- Operating case temperature range (Standard: 0 to +70°C) or (Industrial: -40°C to +85°C)

Applications:

- WDM Application
- SDH STM-1/ SONET OC-3
- Fast Ethernet

Standard:

- Compliant with ITU-T G.957



Ordering Information

Part. No	Specifications								
	Pack	Rate	Tx	P(dBm)	Rx	S(dBm)	WorkingTem	Reach	Fiber Interface
L9-SC315501-60CTC	1x9 Bi-Di	155Mb/s	1310nm FP	-5~0	PIN	<-34	0~70°C	60km	Simplex SC
L9-SC553101-60CTC	1x9 Bi-Di	155Mb/s	1550nm DFB	-5~0	PIN	<-34	0~70°C	60km	Simplex SC
L9-SC315501-60CTI	1x9 Bi-Di	155Mb/s	1310nm FP	-5~0	PIN	<-34	-40~85°C	60km	Simplex SC
L9-SC553101-60CTI	1x9 Bi-Di	155Mb/s	1550nm DFB	-5~0	PIN	<-34	-40~85°C	60km	Simplex SC

Absolute Maximum Ratings

Parameter	Symbol	Unit.	Min	Max
Storage Temperature Range	Ts	°C	-40	85
Operating Temperature	TC	°C	0	70
	TI	°C	-40	85
Power Supply Voltage (+3.3V)	Vcc	V	-0.5	+4
Lead Solder Temperature	-	°C	-	260
Lead Solder Duration	-	S	-	10
Voltage on any input/output pin	VI	V	0	Vcc

Recommended Operating Conditions

Parameter	Symbol	Unit.	Min	Typ	Max
Operating Temperature Rang	TC	°C	0		70
	TI	°C	-40		85
Power Supply Voltage	Vcc	V	3.14	3.3	3.47
Operating Data Rate	-	Mbps		155.52	

Transmitter Optical ,Electrical characteristics

Parameter	Symbol	Unit.	Min	Typ	Max	Note
Electrical Characteristics						
Supply Current	Icc	mA			250	
TransmitterDifferential InputVoltage	VD	mV	550		1750	
Input Differential Impedance	Rin	Ω		100		
Optical rise time	tr	ns			2.0	20%-80%
Optical fall time	tf	ns			2.0	
Launch Optical Power	Po	dBm	-5		0	60km
Extinction Ratio	ER	dB	9			
Central Wavelength	λ	nm	1270	1310	1350	1310FP
			1510	1550	1590	1550DFB
Output Spectrum Width	Δλ	nm			4	FP -LD
Spectrum Width(-20dB)	Δλ	nm			1	DFB-LD
Eye diagram	ITU - T Recommendation G.957 STM-1/OC-3					

Receiver Optical Electrical Characteristics

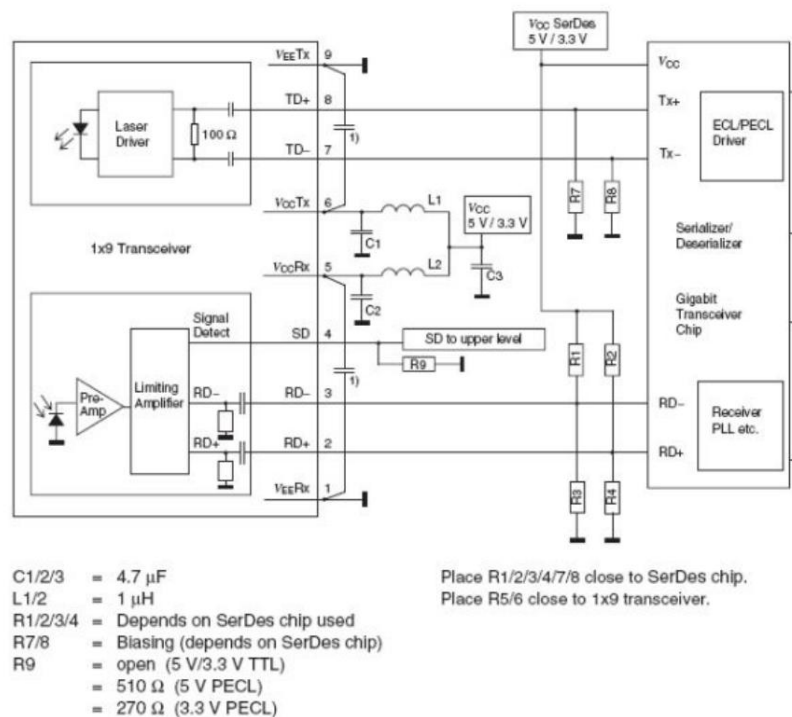
Parameter	Symbol	Unit.	Min	Typ	Max	Note
Sensitivity	S	dBm		-34		60km
Maximum Input Power	P	dBm	-3			60km
Operating wavelength range	λ	nm	1260		1610	
Signal Detect Range		dBm	-45		-35	
Signal Detect-Hysteresis		dB	0.5			

Pin Connections

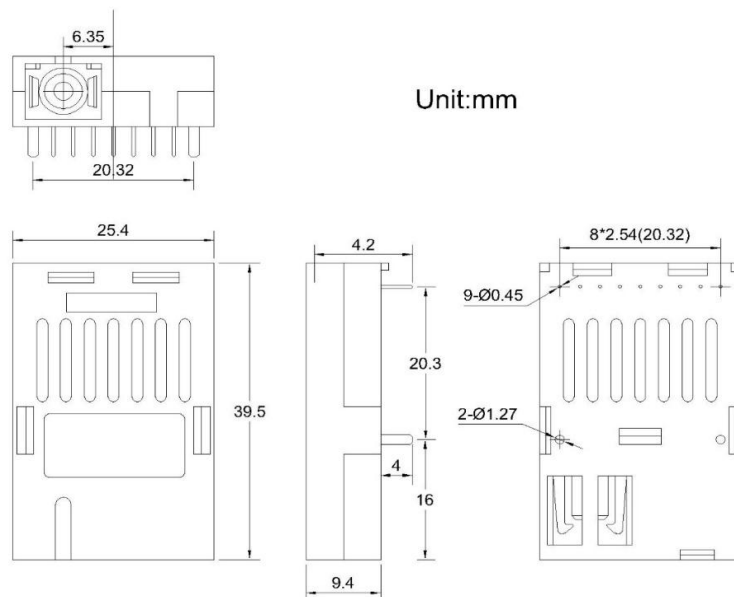
Pin	Name	Description	Note
1	Vee	Receiver Signal Ground	-
2	RD+	Receiver Data Out	-
3	RD-	Receiver Data Out Bar	-
4	SD	Signal Detect, (LV)TTL ouputs	1
5	VccR	Receiver Power Supply	-
6	VccT	Transmitter Power Supply	-
7	TD-	Transmitter Data In Bar	-
8	TD+	Transmitter Data In	-
9	Vee	Transmitter Ground	-

Note1: (LV)PECL-Normal optical input levels to the receiver result in logic “1” output, pull-down 130Ωor 270Ω resistor;
(LV)TTL-Normal optical input levels to the receiver result in logic “1” output,pull-up 10kΩresistor。

Typical Application Circuit



Dimensions: Simplex SC receptacle optical interface



Regulatory Compliance

Feature	Test Method	Performance
ElectrostaticDischarge (ESD) to the ElectricalPins	MIL-STD-883E Method 3015.7	Class 1 (>1.5kV) – Human Body Model
ElectrostaticDischarge (ESD) Immunity	IEC61000-4-2	Class 2 (>4.0kV)
Electromagnetic Interence (EMI)	CISPR22 Class B EN55022 Class B	Compliant with standards
Immunity	IEC61000-4-3 Class 2 EN55024	Typically show no measurable effect from a 3V/mfield swept from 80 to 1000MHz applied to thetransceiver without a chassis enclosure.
Eye Safety	FDA CDRH 21-CFR 1040 Class 1	
	UL	