L9-SC31551G-20PPC

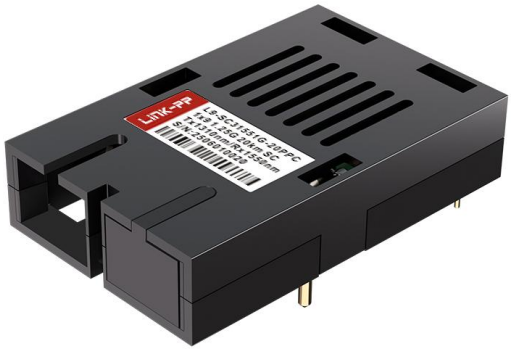
1×9 1.25Gbps SC Bi-Directional Transceiver

Features

- FP/DFB Laser Diode Transmitter
- Up to 0.55 Km on 62.5/125μm MMF， Up to 60 Km on 9/125μm SMF
- 3.3V or 5Vpower supply
- SC/ST/FC single optical interface
- (LV)PECL Differential Input/Output and (LV)PECL or(LV)TTL signal detect
- Class 1 Laser International Safety Standard IEC 825 Compliant
- Operating case temperature range (Standard： 0 to +70℃) or (Industrial： -40°C to +85°C)

Applications

- Gigabit Ethernet
- Fiber Channel
- Digital Video Transmission System
- Other Optic Link



Standard

- Compliant with ITU-T G.957

Order Information

PN	Pack	Rate /Gbps	Tx	Rx	Working Tem	Reach	Fiber Interface	power supply	TX/RX	SD
L9-SC31551 G-20PPC	1x9 Bi-Di	1.25	1310nm FP	PIN	0~70℃	20km	Simplex SC	3.3V	LVPECL	LVPECL
L9-SC55311 G-20PPC	1x9 Bi-Di	1.25	1550nm DFB	PIN	0~70℃	20km	Simplex SC	3.3V	LVPECL	LVPECL
L9-SC31551 G-20PPI	1x9 Bi-Di	1.25	1310nm FP	PIN	-40~85℃	20km	Simplex SC	3.3V	LVPECL	LVPECL
L9-SC55311 G-20PPI	1x9 Bi-Di	1.25	1550nm DFB	PIN	-40~85℃	20km	Simplex SC	3.3V	LVPECL	LVPECL
L9-SC31551 G-20PPC5	1x9 Bi-Di	1.25	1310nm FP	PIN	0~70℃	20km	Simplex SC	5V	PECL	PECL

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L9-SC55311G-20PPC5	1x9 Bi-Di	1.25	1550nm DFB	PIN	0~70℃	20km	Simplex SC	5V	PECL	PECL
L9-SC31551G-20PPI5	1x9 Bi-Di	1.25	1310nm FP	PIN	-40~85℃	20km	Simplex SC	5V	PECL	PECL
L9-SC55311G-20PPI5	1x9 Bi-Di	1.25	1550nm DFB	PIN	-40~85℃	20km	Simplex SC	5V	PECL	PECL
L9-SC31551G-20PTC	1x9 Bi-Di	1.25	1310nm FP	PIN	0~70℃	20km	Simplex SC	3.3V	LVPECL	TTL
L9-SC55311G-20PTC	1x9 Bi-Di	1.25	1550nm DFB	PIN	0~70℃	20km	Simplex SC	3.3V	LVPECL	TTL
L9-SC31551G-20PTI	1x9 Bi-Di	1.25	1310nm FP	PIN	-40~85℃	20km	Simplex SC	3.3V	LVPECL	TTL
L9-SC55311G-20PTI	1x9 Bi-Di	1.25	1550nm DFB	PIN	-40~85℃	20km	Simplex SC	3.3V	LVPECL	TTL
L9-SC31551G-20PTC5	1x9 Bi-Di	1.25	1310nm FP	PIN	0~70℃	20km	Simplex SC	5V	PECL	TTL
L9-SC55311G-20PTC5	1x9 Bi-Di	1.25	1550nm DFB	PIN	0~70℃	20km	Simplex SC	5V	PECL	TTL
L9-SC31551G-20PTI5	1x9 Bi-Di	1.25	1310nm FP	PIN	-40~85℃	20km	Simplex SC	5V	PECL	TTL
L9-SC55311G-20PTI5	1x9 Bi-Di	1.25	1550nm DFB	PIN	-40~85℃	20km	Simplex SC	5V	PECL	TTL

Absolute Maximum Ratings

Parameter		Symbol	Min	Max	Units	Note
Storage Temperature		TST	-40	+85	℃	-
Relative Humidity		RH	5	95	%	-
Supply Voltage	3.3V power	VCC	0	+3.6	V	-
	5V power		0	+6		-

Recommended Operating Conditions

Parameter		Symbol	Min	Typ	Max	Units	Note
Supply Voltage	3.3V power	VCC	+3.1	+3.3	+3.5	V	-
	5V power		+4.75	+5.0	+5.25		-
Supply Current		Icc	-	-	260	mA	-

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Operating Case Temperature	TOP	0	-	+70	℃	1
		-40	-	+85		2
Data Rate	B	10	1250	1500	Mbps	-
Soldering temperature	-	-	-	350	℃	3
Soldering duration	-	-	-	10	Sec	3

Note 1.Standard level
2.Industrial level
3.Not recommended wave soldering.

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	-8		-3	20km
Extinction Ratio	ER	dB	8.2			
Central Wavelength	λ	nm	1270	1310	1350	1310 FP
			1510	1550	1590	1550 DFP
Output Spectrum Width	Δλ	nm			4	FP -LD
	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		-23		20km
Maximum Input Power	P	dBm	-3			20km
Operating wavelength range	λ	nm	1260		1610	
Signal Detect Range		dBm	-38		-23	
Signal Detect-Hysteresis		dB	0.5			

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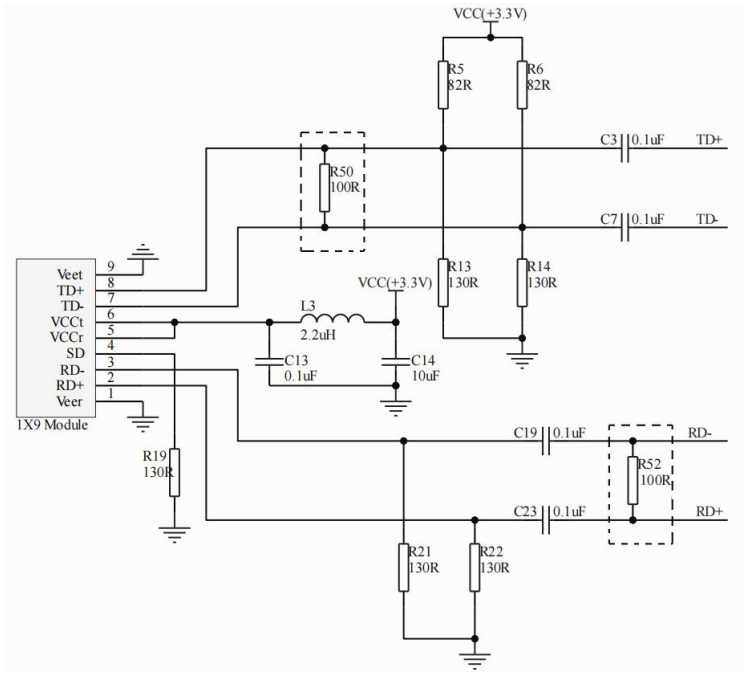
Pin Connections

Pin	Name	Level	Description
1	Vee		Negative power of receiver section, normally grounded
2	RD+	PECL	Data output of receiver section
3	RD-	PECL	Reverse Data output of receiver section
4	SD	PECL or TTL	Optical alarm of receiver section,low level when no light
5	VccR		Positive power of receiver section,normally
6	VccT		Positive power of transmitter section,normally
7	TD-	PECL	Reverse Data input of transmitter section
8	TD+	PECL	Data input of transmitter section
9	Vee		Negative power of transmitter section, normally grounded

Typical Application Circuit



Recommended Circuit Schematic 3.3V SD LVPECL

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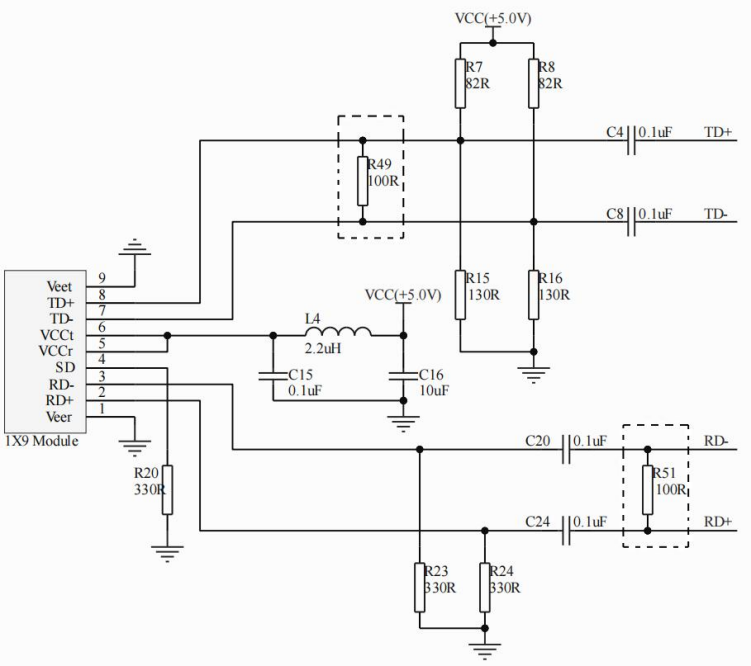
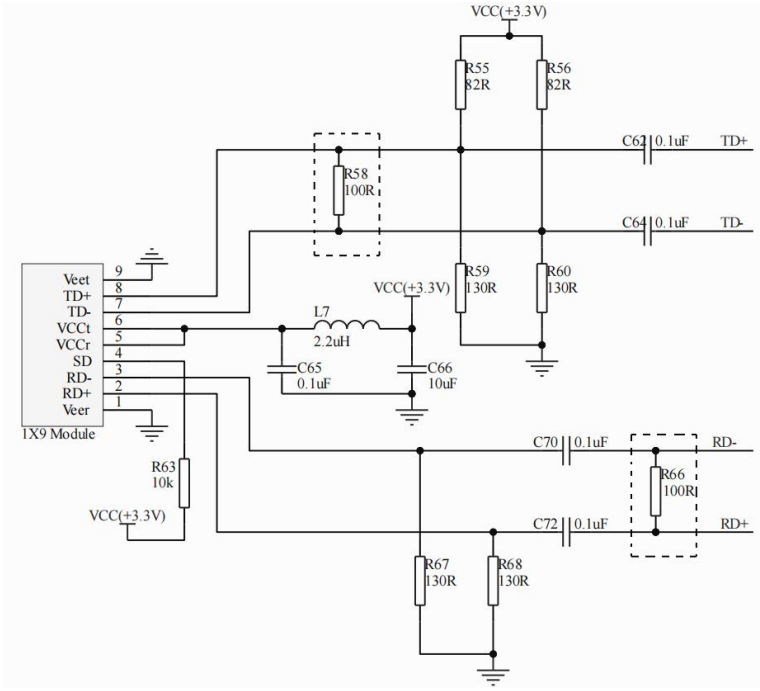


Recommended Circuit Schematic 5V SD PECL



Recommended Circuit Schematic 3.3V SD LVTTL

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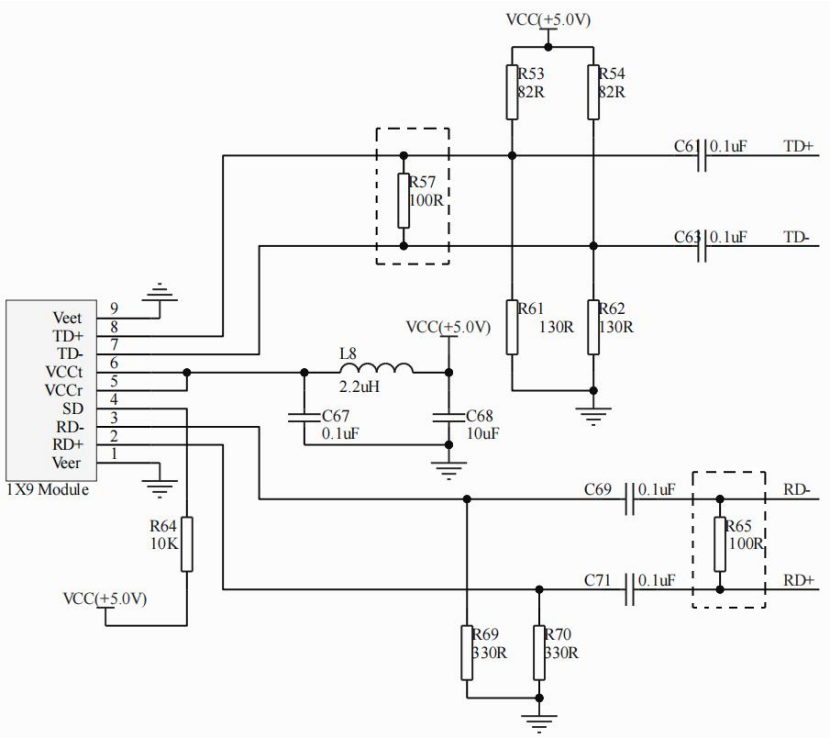
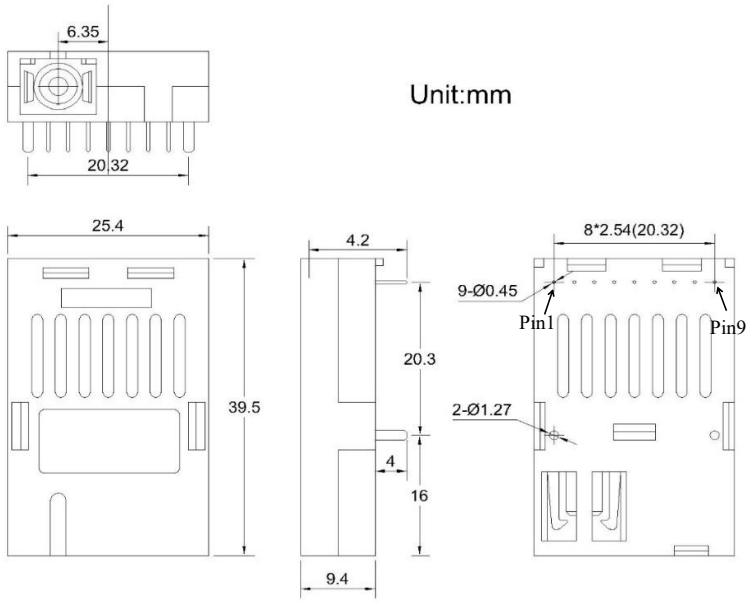


Recommended Circuit Schematic 5.0V SD TTL

Dimensions: Simplex SC receptacle optical interface



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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	

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