

L9-SD311G-20PTC

1.25Gb/s 1310nm 3.3V Single-Mode Duplex SC 20KM Transceiver

Features

- Duplex SC receptacle optical interface transceiver module
- Single +3.3V Power Supply
- 0°C to +70°C operating temperature range
- 1×9 package
- High quality 1310nm FP Laser
- PECL compatible data input/output interface
- TTL or LVPECL receiver signal-detected indication

Applications

- WDM Application
- SDH STM-8/ SONET OC-24
- Gigabit Ethernet



Standard

- Compliant with ITU-T G.957

Absolute Maximum Ratings

Parameter	Symbol	Unit	Min	Max
Operating Temperature	TC	°C	0	70
	TI	°C	-40	85
Storage Temperature Range	Ts	°C	-40	85
Relative Humidity	RH	%	0	85
Power supply Voltage	Vcc	V	3.14	3.47
Lead Solder Temperature	-	°C	-	260
Lead Solder Duration	-	S	-	10

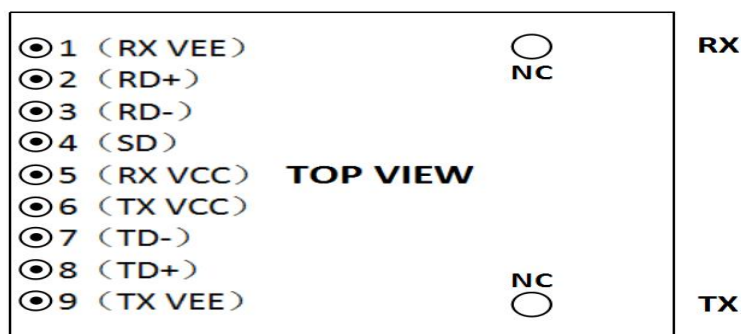
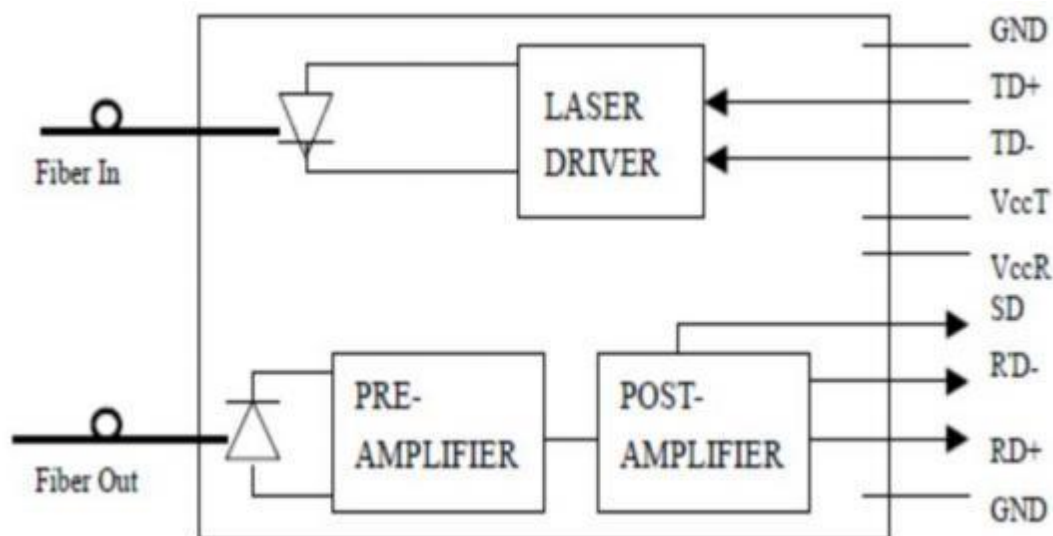
Recommended Operating Conditions

Parameter	Symbol	Unit	Min	Typ	Max
Operating Temperature Rang	TC	°C	0		70
	TI	°C	-40		85
Power Supply Voltage	V _{CC}	V	3.14	3.3	3.47
Operating Data Rate	-	bps	-	1.25G	-

Transmitter Optical ,Electrical characteristics

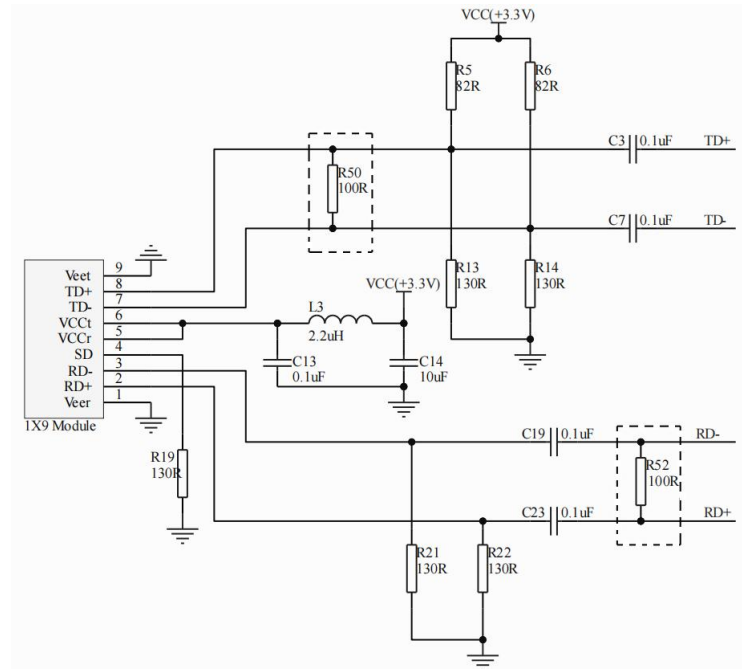
Parameter		Symbol	Unit	Min	Typ	Max	Test Condition
Electrical Characteristics							
Supply Current	Tx section	Icc	mA	-	-	120	
	Rx section			-	-	120	
Differential PECL Input EPCL		Vin	mV	400	800	1800	
Optical transmitter Characteristics							
Data Rate		-	Mbps	-	1250	-	
Optical output Power	20Km	Po	dBm	-9	-	-3	1.3umFP
Center Wavelength Range		λc	nm	1280	1310	1340	1.3umFP
Extinction Ratio		ER	dB	9	-	-	
Spectral Width	FP-LD (RMS)	Δλ	nm	-	-	3	
Eye Diagram		Optical receive Characteristics					
Optical receive Characteristics							
Data Rate		-	Mbps	-	1250	-	
Sensitivity		S	dBm	-	-	-23	
Overload Input Optical Power		Pol	dBm	-3	-	-	
SD(TTL)	Optical Dessert	-	dB	-35	-	-	
	Optical Assert	-		-	-	-23	
SD Hysteresis		-	dB	0.5		6	

Pin Connections

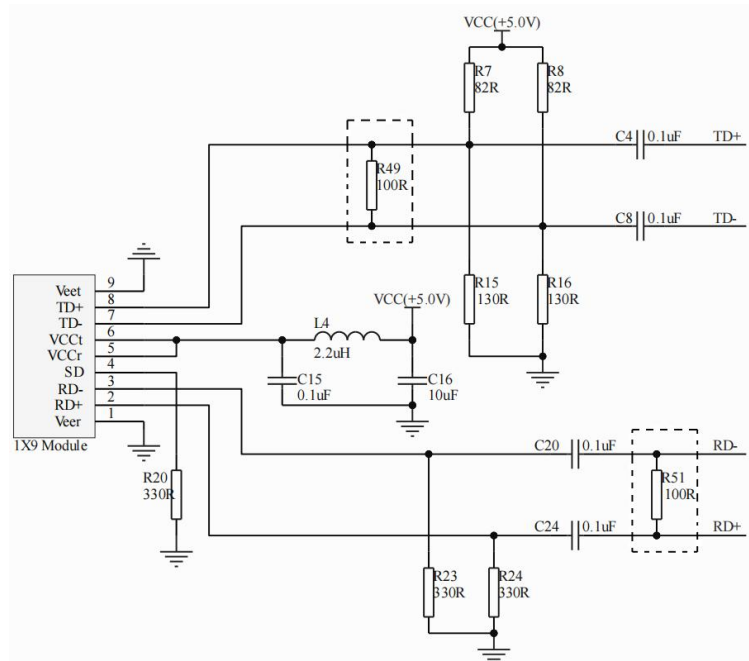


Pin	Name	Level	Description
1	VEER		Negative power of receiver section, normally grounded
2	RD+	PECL	Receiver Date out, Terminate this pin with standard PECL techniques
3	RD-	PECL	Reverse Receiver date out, Terminate this pin with standard PECL techniques
4	SD	TTL or LVPECL	Optical alarm of receiver section, High leve when normal, low level when no light
5	VccR		+3.3V Positive power of receiver section, normally +3.3V
6	VccT		+3.3V Positive power of transmitter section, normally +3.3V
7	TD-	PECL	Reverse data input of transmitter section
8	TD+	PECL	Date input of transmitter section
9	VEET		Negative power of transmitter section, normally grounded

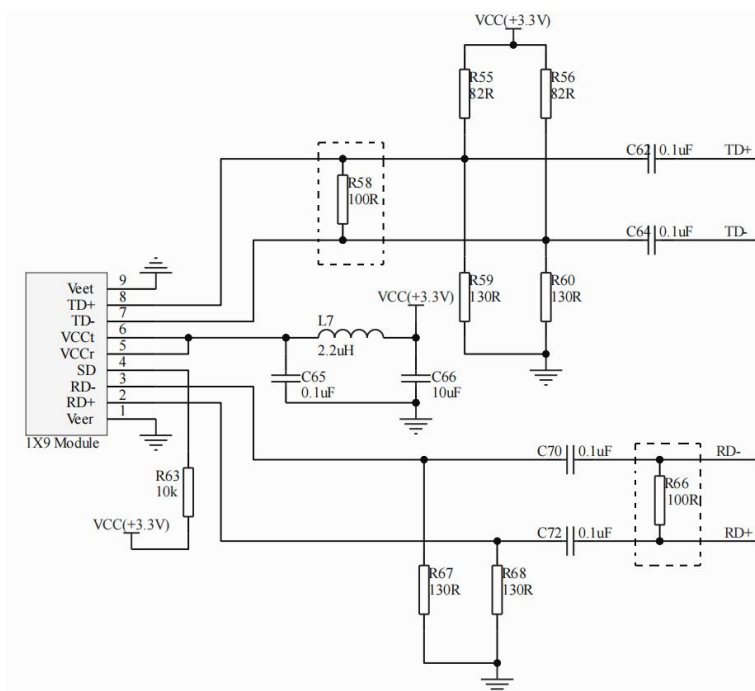
Typical Application Circuit



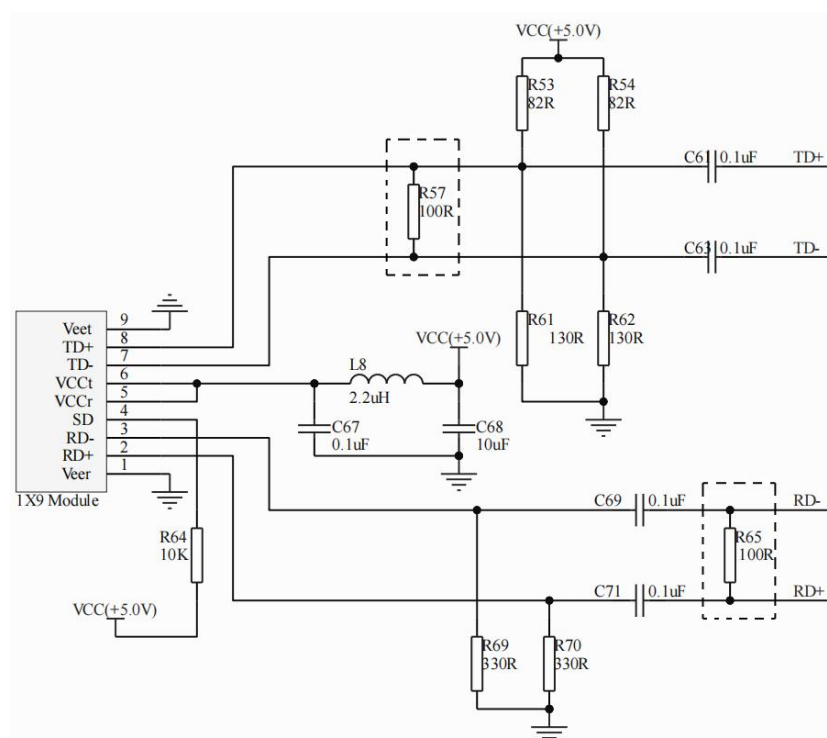
Recommended Circuit Schematic 3.3V SD LVPECL



Recommended Circuit Schematic 5V SD PECL

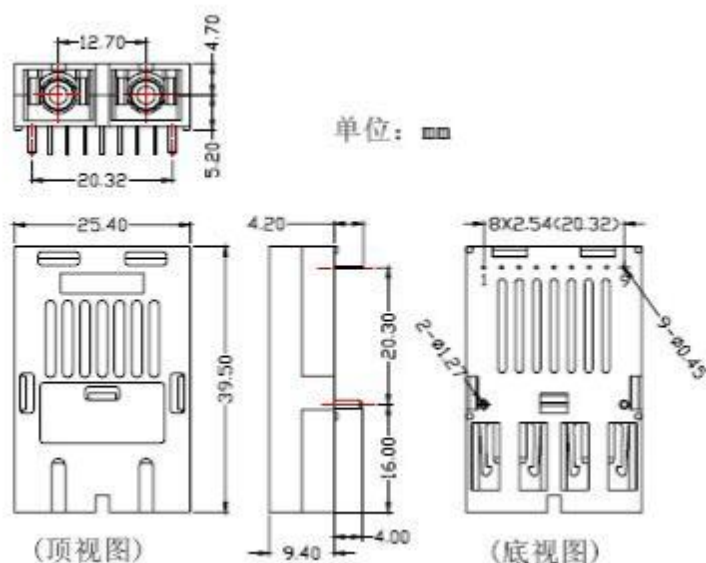


Recommended Circuit Schematic 3.3V SD LVTTL



Recommended Circuit Schematic 5.0V SD TTL

Package Outline: (unit mm)



Regulatory Compliance

Feature	Test Method	Performance
Electrostatic Discharge (ESD) to the Electrical Pins	MIL-STD-883E Method 3015.7	Class 1 (>1.5kV) – Human Body Model
Electrostatic Discharge (ESD) Immunity	IEC61000-4-2	Class 2 (>4.0kV)
Electromagnetic Interference (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/m field swept from 80 to 1000MHz applied to the transceiver without a chassis enclosure.
Eye Safety	FDA 21 CFR 1040.10 and 1040.11	Compliant with Class 1 laser product UL No.E239070
	UL	
	TUV EN 60825-1	

Order Information

Type	OPTICAL INTERFACE	Fiber Type	Wavelength(nm)	Fiber Length(Km)	Note
L9-SD311G-20PPC	duplex SC	SM	1310(FP)	20	LVPECL signal detect
L9-SD311G-20PTC	duplex SC	SM	1310(FP)	20	TTL signal detect