

Professional high-speed optical transceiver

## OPN-S8L13-30SC2I

1X9, Duplex SC, +3.3V, 1310nm FP, Single-Mode

### PRODUCT FEATURES

- 1X9 Pin Package, Single-Mode Transceiver
  - Single +3.3V Power Supply
- Fully compliant with ITU-T G.957, G.958 Specification
  - LVPECL Logic Interface
- Class 1 Laser Product, Compliant with IEC 60825-1
- Compliant with Telcordia (Bellcore) GR-468-CORE
  - Cost Efficient
  - RoHS Compliant Products

### APPLICATIONS

- Fast Ethernet
- Data Transmission

### PRODUCT DESCRIPTION

OPN-S8L13-30SC2I Transceiver operates at the normal wavelength of 1310nm. The transmitter section incorporates an advanced FP and driver IC with temperature compensation and automatic power control function. The receiver section incorporates an efficient InGaAs/InP PIN photodiode and transimpedance with AGC for wide dynamic range. The transceiver has excellent immunity and reliability.

### ORDER INFORMATION

P/No.	Bit Rate (Mb/s)	SONET/SDH	Distance (km)	Wavelength (nm)	Voltage (V)	Package	Temp. (°C)	TX Power (dBm)	RX Sens. (dBm)	RoHS Compliant
OPN-S8L13-30SC2I	155	STM-1 / OC-3	30	1310	3.3	1X9 Duplex SC	-40 to 85	-15 ~ -8	-34 ~ -3	Yes

### Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Units	Notes
Storage Temperature	Tst	-40	+85	°C	
Supply Voltage	Vcc	0	+3.6	°C	OPN-S8L13-30SC2I
Input Voltage	Vin	0	Vcc	°C	
Output Current	Io	0	30	V	
Soldering Temperature & Time	---		240/10	V	

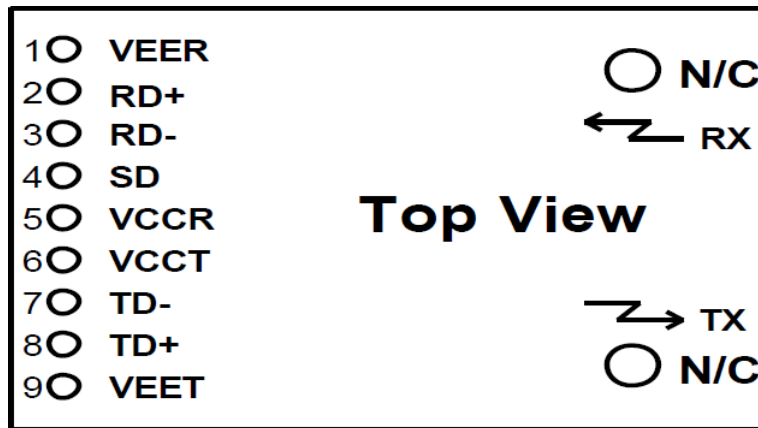
### Recommended Operating Conditions

Parameter	Symbol	Min	Typ	Max	Units
Supply Voltage	Vcc	+3.15	+3.3	+3.45	V
Operating Temperature	Top	-40	-	+85	°C

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Specification Electrical and Optical Characteristics (Top=Ta)						
Parameter	Symbol	Min	Typ	Max	Units	Notes
Data Rate	B	-	155	-	Mb/s	
<b>Transmitter Section</b>						
Centre Wavelength	$\lambda_c$	1260	1310	1360	nm	
Output Spectral Width	$\Delta\lambda$ (RMS)	-	-	$\leq 4$	nm	
Average Output Power	Po	-15	-	-8	dBm	
Rise/ Fall time (10-90%)				3	ns	
Extinction Ratio	E.R.	10	-	-	dB	
Supply Current	Icc	-	70	100	mA	
Output Optical Eye	Compliant with ITU-T G.957					
Data Input Voltage-High, Low	V <sub>IH-VCC</sub>	-1.49	-1.3	-1.19	V	
Input Differential Voltage	V <sub>ID</sub>	0.5	-	1.6	V	
<b>Receiver Section</b>						
Receive Sensitivity	P <sub>min</sub>	-	-	-34	dBm	
Maximum Input Power	P <sub>MAX</sub>	-3	-	-	dBm	
Signal Detection-Asserted	P <sub>H-L</sub>	-47	-	-	dBm	
Signal Detection-Deserted	P <sub>L-H</sub>	-	-	-37	dBm	
Operating Wavelength	$\lambda_c$	1100	-	1600	nm	
Supply Current	Icc	-	60	100	mA	
Data Output High Voltage	V <sub>OH-VCC</sub>	-1.1	-	-0.9	V	
Data Output Low Voltage	V <sub>OL-VCC</sub>	-1.89	-	-1.6	V	

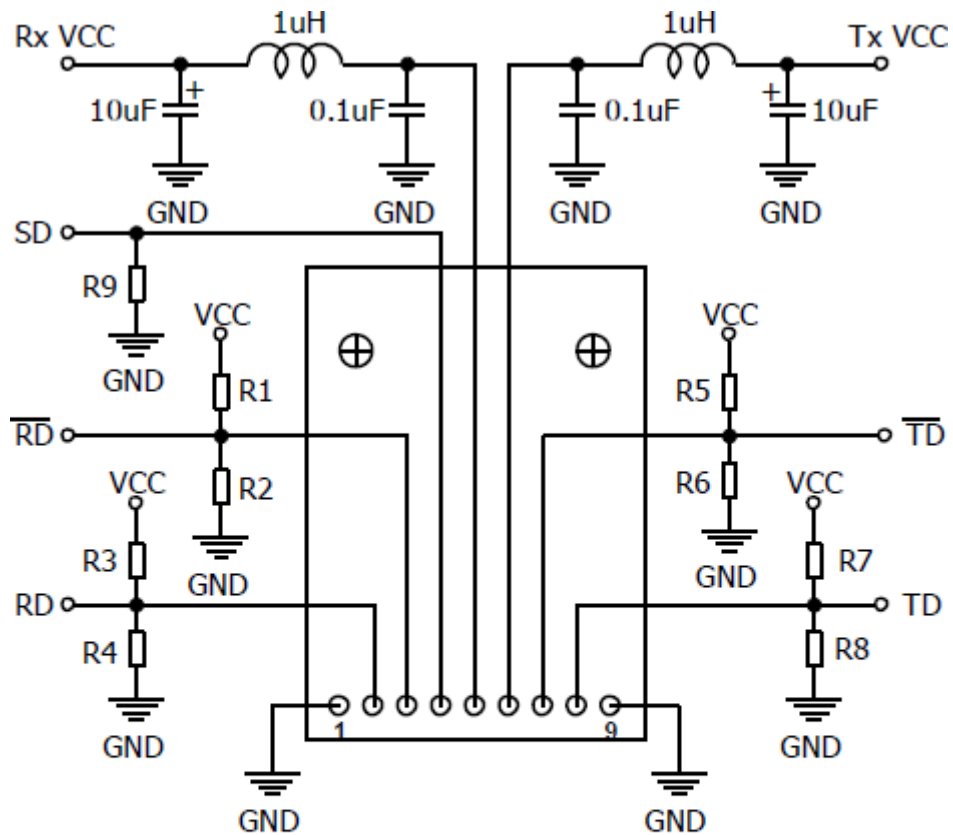
PIN DESCRIPTION



PIN	Symbol	Level	Notes
1	VEER		Negative power of receiver section, normally grounded
2	RD+	LVPECL	Receiver Data Output
3	RD-	LVPECL	Inverted Receiver Data Output
4	SD	LVPECL	Optical alarm of receiver section, High level when normal, low level when no light
5	VCCR		Positive power of receiver section, normally +3.3V
6	VCCT		Positive power of transmitter section, normally +3.3V
7	TD-	LVPECL	Inverted Transmitter Data input
8	TD+	LVPECL	Transmitter Data input
9	VEET		Negative power of transmitter section, normally grounded

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### RECOMMENDED CIRCUIT SCHEMATIC



**NOTE:**

1:VCC=+5V

2:VCC=+3.3V

R1=R3=R5=R7=82R

R1=R3=R5=R7=130R

R2=R4=R6=R8=130R

R2=R4=R6=R8=82R

R9=390R

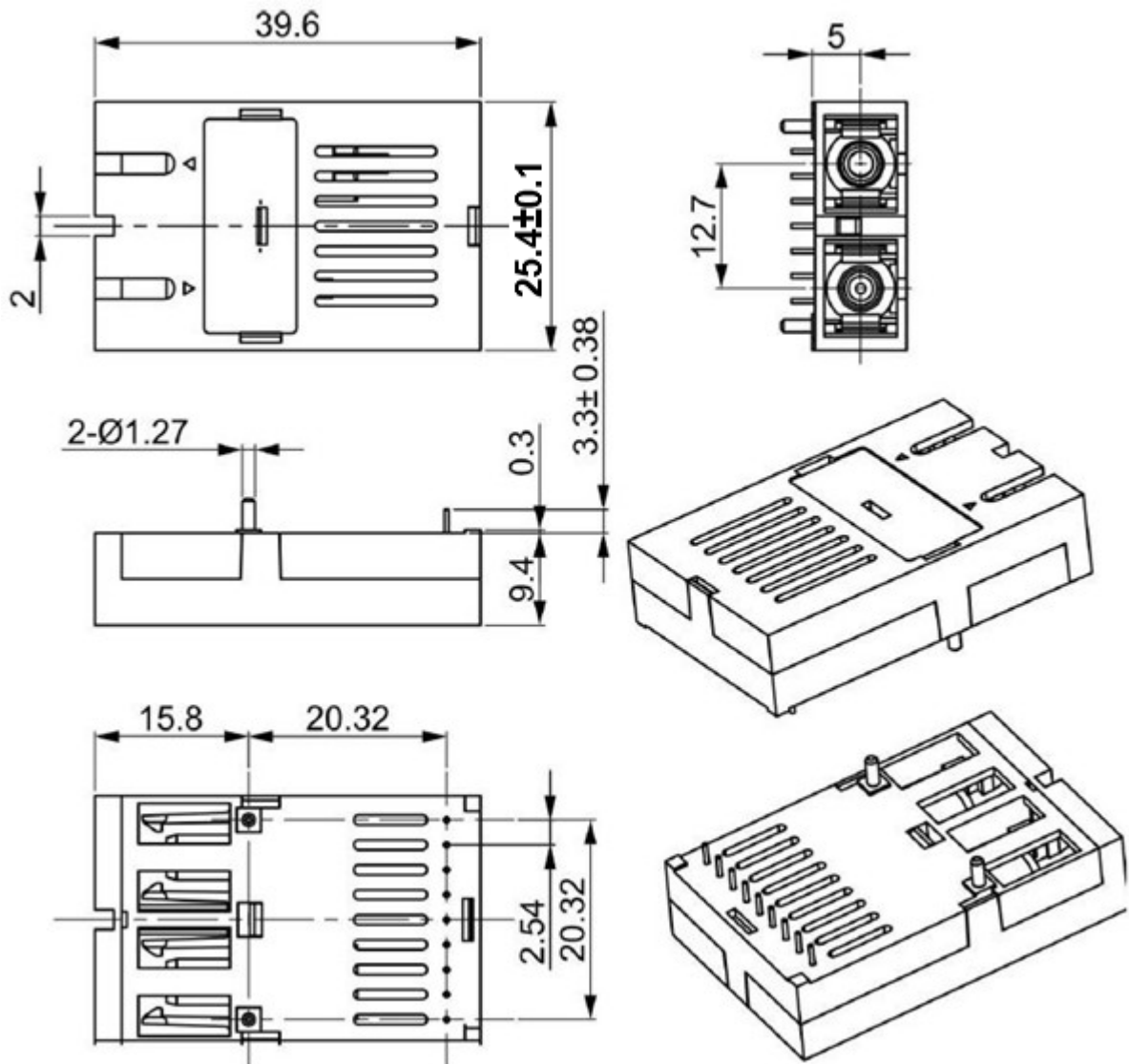
R9=200R

**Data-PECL.SD-PECL**

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### MECHANICAL DIMENSIONS

Units in mm



**Note:** Specifications subject to change without notice.