

### Features:

- Accepts a Simplex LC Connector
- 1310nm FP Laser and 1550nm PIN Photodetector
- 1550nm DFB Laser and 1310nm PIN Photodetector
- +3.3V single power supply
- LVPECL Compatible Data Input/output Interface
- Low EMI and Excellent ESD Protection
- Laser Safety Standard IEC-60825 Compliant
- Compatible with RoHS

### Absolute Maximum Ratings:

Parameter	Symbol	Minimum	Maximum	Units
Storage Temperature	Tst	-40	+85	°C
Supply Voltage	Vcc	0	+3.6	V
Operating Relative Humidity	RH	5	95	%

### Operation Environment:

Parameter	Symbol	Min	Typical	Max	Units
Supply Voltage	Vcc	3.15	3.3	3.45	V
Operating Case Temperature	Commercial	Tc		+70	°C
	Industrial				
Power Dissipation				1	W
Data Rate			1.25		Gbps

### Optical Characteristics:

(Ambient Operating Temperature 0°C to +70°C, Vcc =3.3 V)

Parameter	Symbol	Min.	Typ.	Max.	Units	
<b>Transmitter Section</b>						
Center Wavelength	Tx 1310	$\lambda_o$	1260	1310	1360	nm
	Tx 1550		1540	1550	1560	
Spectral Width(RMS)	Tx 1310	$\Delta\lambda$	-	-	4	nm
	Tx 1550				1	
Average Output Power	Tx 1310	Po	-8	-	-3	dBm
	Tx 1550		-8		0	
Extinction Ratio	Er	10	-	15	dB	
Rise/Fall Time(20%~80%)	Tr/Tf			0.26	ns	
Total jitter	Tj			0.43	UI	
Optical Eye Diagram	IEEE 802.3z and ANSI Fibre Channel Compatible					
<b>Receiver Section</b>						

Center Wavelength	Rx 1550	$\lambda_o$	1500	1550	1600	nm
	Rx 1310		1260	1310	1360	
Receiver Sensitivity	Rsen				-24	dBm
Receiver Overload	Rov		-3			dBm
Return Loss			12			dB
LOS Assert	LOS <sub>A</sub>		-36			dBm
LOS Dessert	LOS <sub>D</sub>				-24	dBm
LOS Hysteresis			0.5		5	

### Electrical Characteristics:

(Ambient Operating Temperature 0°C to +70°C, Vcc =3.3 V)

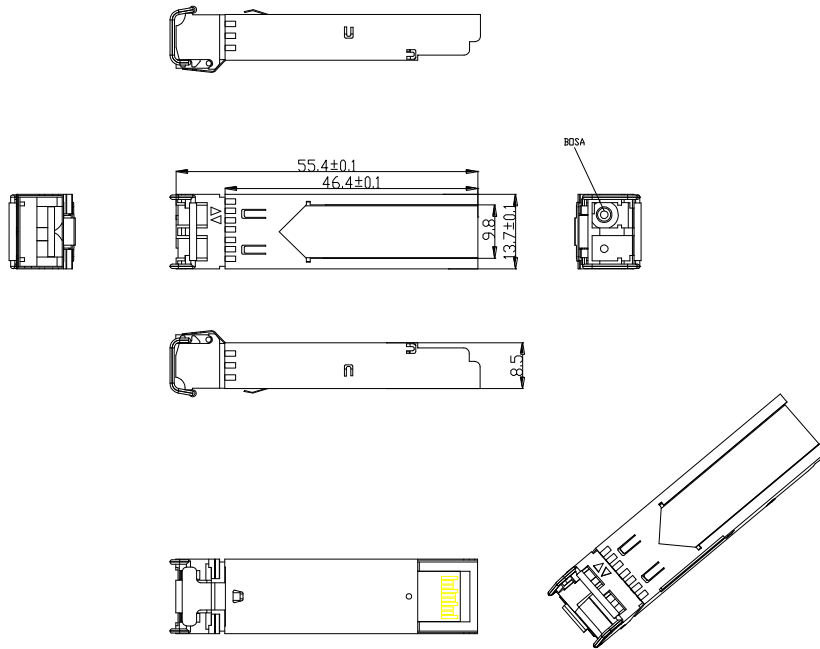
Parameter	Symbol	Min.	Typ.	Max.	unit
<b>Transmitter Section</b>					
Input Differential Impedence	Zin	90	100	110	Ohm
Data Input Swing Differential	Vin	500		2400	mV
TX Disable	Disable	2.0		Vcc	V
	Enable	0		0.8	V
TX Fault	Assert	2.0		Vcc	V
	Deassert	0		0.8	V
<b>Receiver Section</b>					
Output differential impedance	Zout		100		Ohm
Data Input Swing Differential	Vout	370		2000	mV
Rx_LOS	Assert	2.0		Vcc	V
	Deassert	0		0.8	V

### Pin Description:

Pins	Name	Discription	NOTE
1	VeeT	Transmitter Ground	
2	Tx Fault	Transmitter Fault Indication	1
3	Tx Disable	Transmitter Disable	2
4	MOD DEF2	Module Definition 2	3
5	MOD DEF1	Module Definition 1	3
6	MOD DEF0	Module Definition 0	3
7	Rate Select	Not Connected	
8	LOS	Loss of Signal	4
9	VeeR	Receiver Ground	
10	VeeR	Receiver Ground	
11	VeeR	Receiver Ground	
12	RD-	Inv. Received Data Output	5
13	RD+	IReceived Data Output	5
14	VeeR	Receiver Ground	
15	VccR	Receiver Power	

16	VccT	Transmitter Power	
17	VeeT	Transmitter Ground	
18	TD+	Transmit Data Input	6
19	TD-	Inv. Transmit Data Input	6
20	VeeT	Transmitter Ground	

**Outline drawing (mm):**



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**Ordering information :**

SGP-SG-SML-20	Commercial	0~70°C
SGP-SG-SML-20I	Industrial	-40~85°C
SGP-SG-SML-20D	SFP WITH DDM	0~70°C / -40~85°C
SGP-SG-SML-40	Commercial	0~70°C
SGP-SG-SML-40I	Industrial	-40~85°C
SGP-SG-SML-40D	SFP WITH DDM	0~70°C / -40~85°C
SGP-SG-SML-60	Commercial	0~70°C
SGP-SG-SML-60I	Industrial	-40~85°C
SGP-SG-SML-60D	SFP WITH DDM	0~70°C / -40~85°C
SGP-SG-SML-80	Commercial	0~70°C
SGP-SG-SML-80I	Industrial	-40~85°C
SGP-SG-SML-80D	SFP WITH DDM	0~70°C / -40~85°C
SGP-SG-SML-100	Commercial	0~70°C
SGP-SG-SML-100I	Industrial	-40~85°C
SGP-SG-SML-100D	SFP WITH DDM	0~70°C / -40~85°C
SGP-SG-SML-120	Commercial	0~70°C
SGP-SG-SML-120I	Industrial	-40~85°C
SGP-SG-SML-120D	SFP WITH DDM	0~70°C / -40~85°C
SGP-SG-SML-160	Commercial	0~70°C
SGP-SG-SML-160I	Industrial	-40~85°C
SGP-SG-SML-160D	SFP WITH DDM	0~70°C / -40~85°C



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