

### 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		3.45	V
Operating Case Temperature	Commercial	Tc		+70	°C
	Industrial			-40	
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	$\lambda_o$	840	850	860	nm
Spectral Width(RMS)	$\Delta\lambda$	-	-	0.85	nm
Average Output Power	Po	-8	-	-3	dBm
Extinction Ratio	Er	9	-	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	$\lambda_o$	770	850	860	nm
Receiver Sensitivity	Rsen			-19	dBm
Receiver Overload	Rov	-3			dBm

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Return Loss		12			dB
LOS Assert	LOS <sub>A</sub>	-32			dBm
LOS Dessert	LOS <sub>D</sub>			-19	dBm
LOS Hysteresis		0.5		5	

## 6. Electrical Characteristics

(Ambient Operating Temperature 0°C to +70°C, V<sub>cc</sub> =3.3 V)

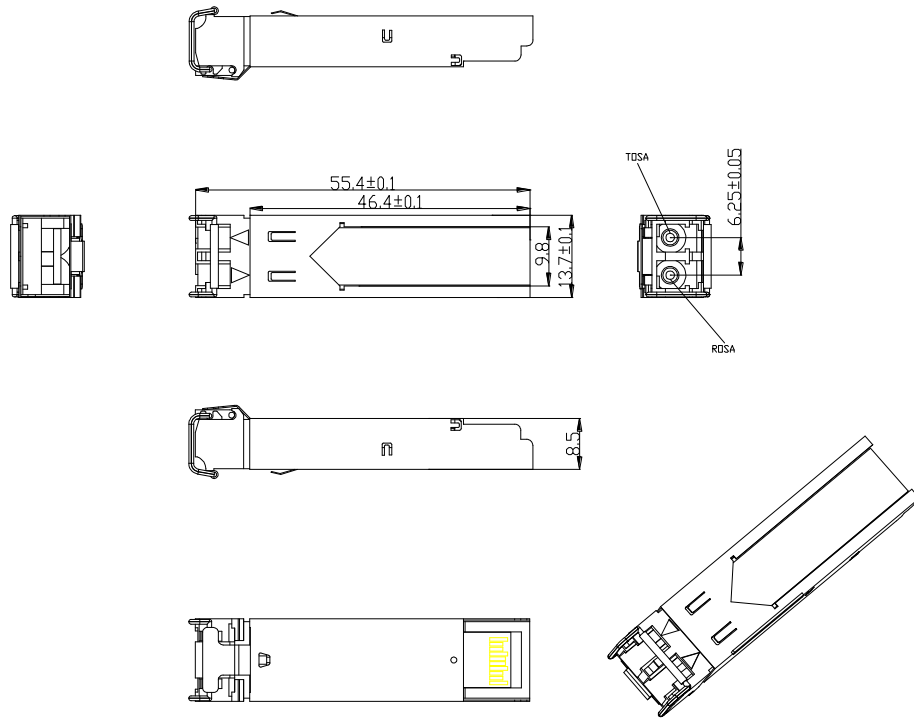
Parameter	Symbol	Min.	Typ.	Max.	unit
<b>Transmitter Section</b>					
Input Differential Impedence	Z <sub>in</sub>	90	100	110	Ohm
Data Input Swing Differential	V <sub>in</sub>	500		2400	mV
TX Disable	Disable		2.0	V <sub>cc</sub>	V
	Enable		0	0.8	V
TX Fault	Assert		2.0	V <sub>cc</sub>	V
	Deassert		0	0.8	V
<b>Receiver Section</b>					
Output differential impedence	Z <sub>out</sub>		100		Ohm
Data Input Swing Differential	V <sub>out</sub>	370		2000	mV
Rx_LOS	Assert		2.0	V <sub>cc</sub>	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):**



**Ordering information :**

SGP-SG-SMD-1	Commercial	0~70°C
SGP-SG-SMD-1I	Industrial	-40~85°C
SGP-SG-SMD-1D	SFP WITH DDM	0~70°C / -40~85°C
SGP-SG-SMD-2	Commercial	0~70°C
SGP-SG-SMD-2I	Industrial	-40~85°C
SGP-SG-SMD-2D	SFP WITH DDM	0~70°C / -40~85°C
SGP-SG-SMD-20	Commercial	0~70°C
SGP-SG-SMD-20I	Industrial	-40~85°C
SGP-SG-SMD-20D	SFP WITH DDM	0~70°C / -40~85°C
SGP-SG-SMD-40	Commercial	0~70°C
SGP-SG-SMD-40I	Industrial	-40~85°C
SGP-SG-SMD-40D	SFP WITH DDM	0~70°C / -40~85°C
SGP-SG-SMD-60	Commercial	0~70°C
SGP-SG-SMD-60I	Industrial	-40~85°C

SGP-SG-SMD-60D	SFP WITH DDM	0~70°C / -40~85°C
SGP-SG-SMD-80	Commercial	0~70°C
SGP-SG-SMD-80I	Industrial	-40~85°C
SGP-SG-SMD-80D	SFP WITH DDM	0~70°C / -40~85°C
SGP-SG-SMD-100	Commercial	0~70°C
SGP-SG-SMD-100I	Industrial	-40~85°C
SGP-SG-SMD-100D	SFP WITH DDM	0~70°C / -40~85°C
SGP-SG-SMD-120	Commercial	0~70°C
SGP-SG-SMD-120I	Industrial	-40~85°C
SGP-SG-SMD-120D	SFP WITH DDM	0~70°C / -40~85°C
SGP-SG-SMD-140	Commercial	0~70°C
SGP-SG-SMD-140I	Industrial	-40~85°C
SGP-SG-SMD-140D	SFP WITH DDM	0~70°C / -40~85°C
SGP-SG-SMD-160	Commercial	0~70°C
SGP-SG-SMD-160I	Industrial	-40~85°C
SGP-SG-SMD-160D	SFP WITH DDM	0~70°C / -40~85°C



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