

1. GENERAL

SCOPE

The light transmitting unit is a standard-packaged product with connector and opto-electric component packaged with LED and drive IC. The function of unit changes the electric signal into light signal and be transmitted by plastic fiber.

This unit is operated at single +3.3V ~ +5V and the input signal is TTL compatible. The module has a maximum operating speed of 13.2 Mbps. The light signal is coupled into plastic fiber by connector. This unit has high performance at low dissipation current, steady light output and efficient light coupling.

MATED PLUG

The mated plug should complied with standard EIAJ-5720B

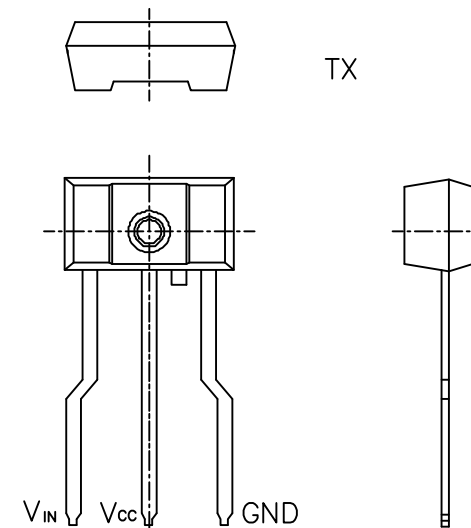
2. ABSOLUTE MAXIMUM RATING

Parameters	Symbol	Rating	Unit
Supply Voltage	V_{CC}	-0.5~+7.0	V
Input Voltage	V_{IN}	-0.5~ $V_{CC}+0.5$	V
Operating Temperature	T_{opr}	-20~+70	°C
Storage Temperature	T_{stg}	-40~+70	°C
ElectroStatic Damage	ESD	3.5	KV
Soldering Temperature	T_{sol}	260	°C

Soldering Time ≤ 10 Seconds

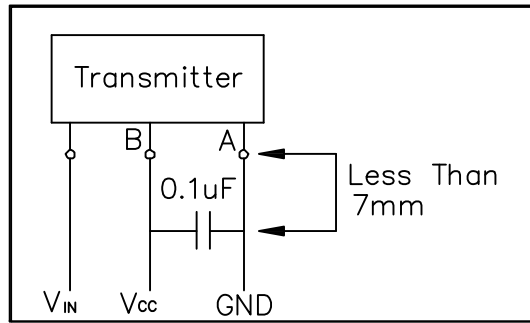
3. RECOMMENDED OPERATING CONDITION

Parameters	Symbol	MIN.	TYP.	MAX.	Unit
Supply Voltage	V_{CC}	2.7		5.5	V
High Level Input Voltage	V_{IH}	2.0			V
Low Level Input Voltage	V_{IL}			0.8	V



APPLICATION NOTE:

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2. The total line resistance of power line (from V_{CC} to B) and ground line (from GND to A) should not too high as to reduce the bias voltage across the transmitter (between B & A) that cause the module fail.
3. Please be noted that attenuation due to layout should not cause the V_{IN} too worse.

4. ELECTRICAL CHARACTERISTICS ($V_{CC} = 3.0V$ or $5.0V$ / $TA = 25^{\circ}C$)

Parameters	Symbol	Condition	MIN.	TYP.	MAX.	Unit
Transmission Distance	D	Using APF	0.2		20	m
Output Power	P_f		-21	-17	-15	dBm
Center Emission Wavelength	λ		630		690	nm
High Level Input Voltage	V_{IH}	$V_{CC} = 3V$ or $5V$	2.0			V
Low Level Input Voltage	V_{IL}	$V_{CC} = 3V$ or $5V$			0.8	V
Quiescent Supply Current	I_{OUT_ON}	$V_{CC} = 3V$ or $5V$ $V_{IN} = V_{CC}$ $V_{FLED} = 2.0V$		6	10	mA
Output Leakage Current	I_{OUT_OFF}	$V_{CC} = 3V$ or $5V$ $V_{IN} = V_{SS}$ $V_{FLED} = 2.0V$				μA
Propagation Delay	t_{PLH} t_{PHL}	NRZ Code $C_{LED} = 30 PF$ $V_{FLED} = 2.0V$			100	ns
Rise Time of I_{OUT}	t_r	NRZ Code $C_{LED} = 30 PF$ $V_{FLED} = 2.0V$			30	ns
Fall Time of I_{OUT}	t_f	NRZ Code $C_{LED} = 30 PF$ $V_{FLED} = 2.0V$			30	ns
Pulse Width Distorsion	Δt_w	6 Mbps NRZ Code	-25		25	ns
Jitter	Δt_J				25	ns
Data Rate	T	NRZ Code $C_{LED} = 30 PF$ $V_{FLED} = 2.0V$	DC		13.2	Mbps

G Notes:

1. Electrical:

- H** a. Voltage Rating: 7VDC(r.m.s)
- b. Current Rating: 0.5Amperes.
- c. Insulation Resistance: 100M ohms min.
- d. Dielectric Withstand Voltage: AC 500V/1 min.
- H** e. Contact Resistance: Plug to contacts 50m ohms initial;
contacts to shunt (ground) 30m ohms initial;

2. Mechanical:

- H** a. Material: See BOM list (Sheet 1 OF 4).
- H** b. Plating: See BOM list (Sheet 1 OF 4).
- J** Tin plating means 50u" min., Ni 50u" min. underplated overall.
- c. Durability: Optical Jack 500 cycles; Audio Jack & Mini Din 5000 cycles.
- d. Mating force: Optical Jack 5.88N~39.2N, ; Audio Jack 2.94N~29.4N; Mini Din 3.92N~44.1N.
Unmating force: Optical Jack 5.88N~39.2N, ; Audio Jack 2.94N~29.4N; Mini Din 3.92N~44.1N.
- e. Coplanarity of SMT Leads: Not Applicable.
- f. Solderability: More than 95% of solderable area shall be covered with solder after 5~10 seconds flux(No clean flux)deep.
- g. Soldering Profile: 260°C±5°C for 5±1 seconds without remarkable deterioration.

3. Environmental:

- J** a. Operating/Storage Temperature: -25°C to +70°C.
- H** b. Temperature Life: A temperature of 85±2°C for 96hours.
- c. Salt Spray test shall be tested per ASTM 117 for 4 hours.
- d. Steady State Humidity: 90%~95% humidity on 40±3°C for 96hours.
- J** e. After environmental test, connector Plug to contact should not increase to 100m ohms max.
contacts to shunt (ground) resistance should not increase to 60m ohms max.
and meet IR and DWV as initial.

4. Compliance:

- H** a. Standard: Optical Jack connector specification.
- b. Standard: Audio Jack connector specification.
- c. Standard: Mini Din connector specification.
- d. RoHS 6/6 Compliant.

5. Order Information:

POF-790

SHEET	REV
4 OF 4	SEE SHEET 1