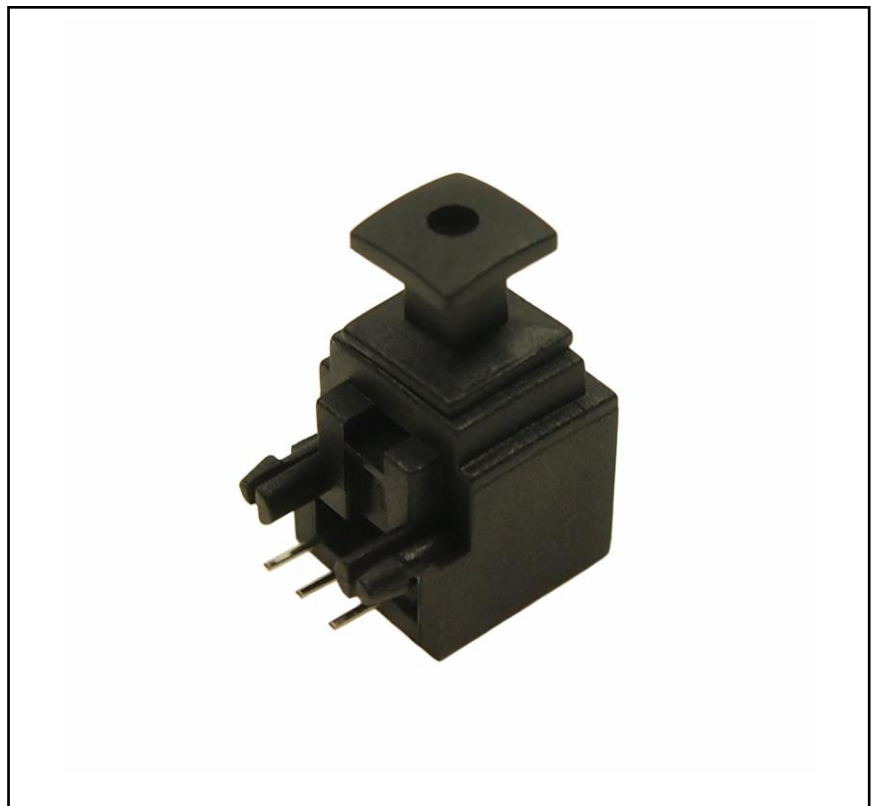**RS PRO**

Features

- High PD sensitivity for red light
- High speed up to 16Mbps
- Low power consumption and current dissipation
- PBT body

RS PRO Optical Receiver jack

RS Stock No.: 2707763

RS Professionally Approved Products bring to you professional quality parts across all product categories. Our product range has been tested by engineers and provides a comparable quality to the leading brands without paying a premium price.

Fibre Optic Receivers

Product Description

This light receiving unit is a standard-package product with connector and opto-electric component packaged with PD and I/V amplifier IC. The function of unit changes the light signal into electrical signal.

The unit is operated at single +3V~ +5V and the input signal is TTL compatible. It has a maximum operating speed of 16Mbps. The unit has high performance at low dissipation current, steady light output and efficient light coupling.

Applications

Audio equipment, Digital optical data link, MD, Sound card

Device Selection Guide

Chip IC Material	Chip LED λ p(nm)	Operating Voltage (Vcc)	Dissipation Current (mA)	Fibre Coupling Light Output (dBm)
Si	650	2.7~5.5	Typ. 6.5	Min -24 to Max -14.5

Maximum Ratings (Ta = 25°C)

Supply Voltage	Vcc	5.5 V
Storage Temperature	Tstg	-30 to +80°C
Operating Temperature	Topr	-20 to +70°C
Soldering Temperature	Tsol	260°C
Soldering Time		≤ 5 sec / 2 times

Electro-Optical Specification

Operating Voltage	Vcc	2.7 to 5.5 V
Peak Detective Wavelength	λp	Typical 650 nm
Transfer Speed		0.1 to 16 Mbps (NRZ signal)
Receiving Distance		0.2 to 20 m (Using APF)
Pulse Width Distortion	Δtw	-20 to 20 ns (16Mbps NRZ Signal)
Input Light power	Pi	-24 to -14.5 dBm. See measuring method
Dissipation Current	Icc	Typical 6 to 10 max mA. See measuring method
High Level Output Voltage	V_{OH}	2.4v min
Low Level Output Voltage	V_{OL}	0.4v max
Rise Time	t_r	25ns Max.

Fibre Optic Receivers

Fall Time	t_f	25ns Max.
Low to High propagation delay time	tPLH	100ns max
High to Low propagation delay time	tPLH	100ns max
Jitter	Δtj	Typical 1.5ns to max 15ns
Supply Voltage	Vcc	-0.5 to 7 V

Reliability Tests

Sample test size: 22 pcs, no failures

Item	Test Condition	Test Hours / Cycle
Soldering Heat	260°C ± 5°C	5 sec. / 2 times
High temp & Humidity storage	Ta=40°C, 90%RH	500
High storage temp.	Ta=80°C	500
Low storage temp.	Ta=-30°C	500
Temperature cycling	-30°C ~ 80°C (30min) (5min) (30min)	20
High temp operation life	Ta=60°C, Vcc=5V ON	500
Repeated operation	500 times	Coupling force < 2kg 0.4kg < detaching force <2kg
Terminal strength (tension)	Weight: 500g, 30 sec each terminal	
Terminal strength (bending)	Weight: 500g, 2 times each terminal	
Mechanical Shock	Acceleration: 1000m/s2 Pulse width: 6ms, 3 times / X, Y, Z direction	
Vibration	Frequency range: 10~55Hz / sweep 1 min Overall amplitude: 1.5mm 2H / X, Y, Z direction	

Icc (dissipation current): CURRENT ATTENUATE DIFFERENCE < 20%
TPLH (propagation L➤H delay time): DELAY TIME DIFFERENCE < 20%
TPLH (propagation H➤L delay time): DELAY TIME DIFFERENCE < 20%
Tr (rise time): TIME DIFFERENCE < 20%
Tf (fall time): TIME DIFFERENCE < 20%

Approvals

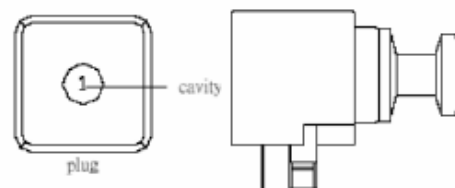| Conforms to	EIAJ CP-1201 digital audio interface standard
Standards Met	RoHS

Package Dimensions
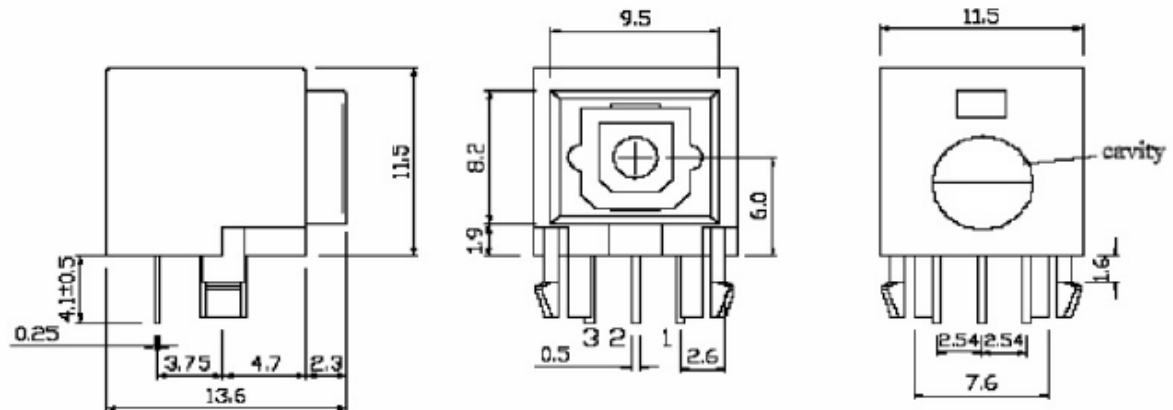
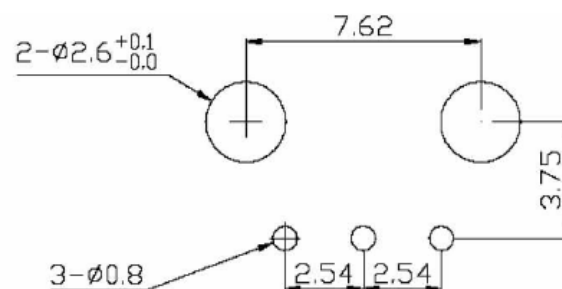**Notes:** 1. All dimensions are in millimeters.

2. General Tolerance: ±0.2mm

Pin Function

1. Vout
2. GND
3. Vcc

PCB Layout For Electrical Circuit

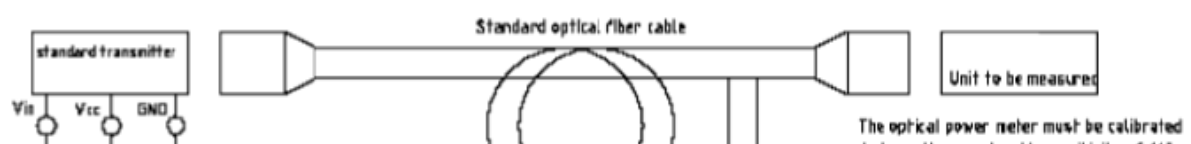**Notes:**

1. Unit: mm
2. Unspecified tolerance: ±0.3mm
3. Substrate Thickness: 1.6mm

Measuring Method

*1   Maximum receiver input optical power/Minimum receiver input optical power

Precautions for Using Method

1. Connect a by-pass capacitor (0.1uF) close to the optical jack within 7 mm of the unit lead frame.

2. Connect a by-pass capacitor(30pF) between GND and Vout avoid loading effect.

3. Take proper electrostatic-discharge (ESD) precautions while handling these devices. These devices are sensitive to ESD.