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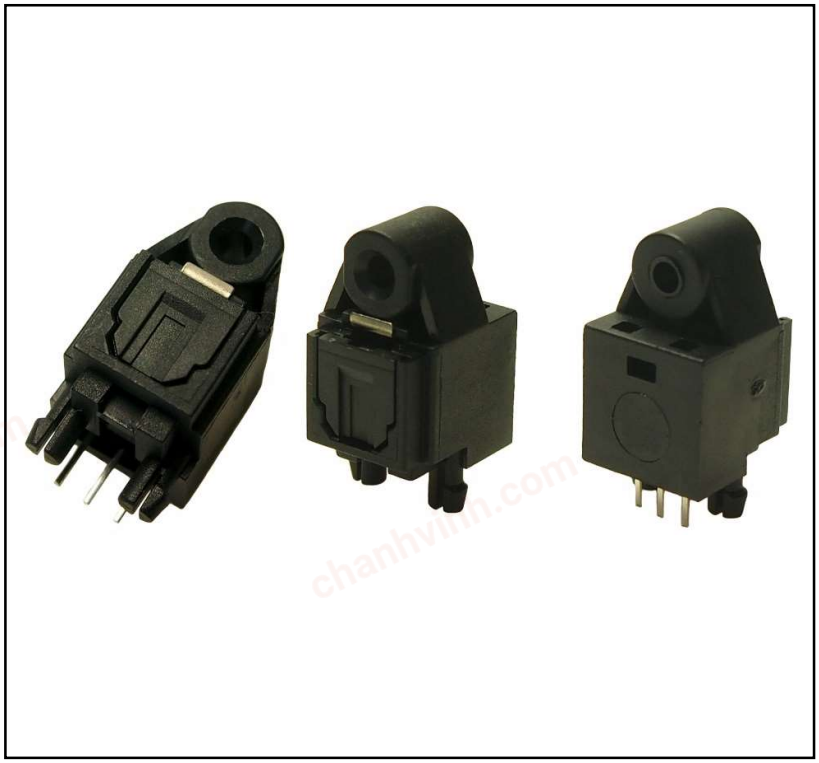
Optical Jacks

Features

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

RS PRO Optical Receiver jack

RS Stock No.: 0458679



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.

Product Description

Optical Jacks

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	660	+3~+5V	Typ. 2.5	Min -24 to Max -14.5

Maximum Ratings (Ta = 25°C)

Supply Voltage	Vcc	0 ~ 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

Supply Voltage	Vcc	-0.5 to 7 V
Operating voltage	Vcc	2.7 to 5.5 V
Peak Detective Wavelength	λp	Typical 660 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 2.5 to 10 max mA. See measuring method
High Level Output Voltage	VOH	2.4v min
Low Level Output Voltage	VOL	0.4v max
Rise Time	t_r	25ns Max.
Fall Time	t_f	25ns Max.
Low to High propagation delay time	tPLH	100ns max
High to Low propagation delay time	tPLH	100ns max

Optical Jacks

Jitter	Δtj	Typical 1.5ns to max 10ns

Reliability Tests

Sample test size: 22 pcs, no failures

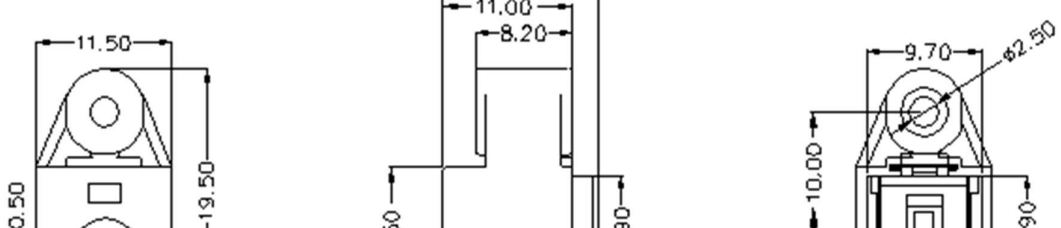
Item	Test Condition	Test Hours / Cycle
Soldering Heat	260°C ± 5°C	5 sec. / 2 times
High temp & Humidity storage	Ta=40°C, 90%RH	500
High storage temp.	Ta=80°C	500
Low storage temp.	Ta=-30°C	500
Temperature cycling	-30°C ~ 80°C (30min) (5min) (30min)	20
High temp operation life	Ta=60°C, Vcc=5V ON	500
Repeated 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

Dimensions



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Optical Jacks

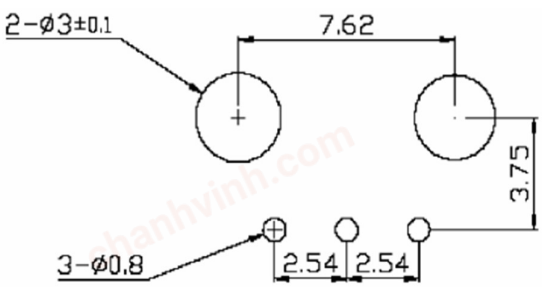
Shutter Black

Notes: 1.All dimensions are in millimeters.
2.General Tolerance:±0.2mm

Pin Function

1. Vout 2.GND 3.Vcc

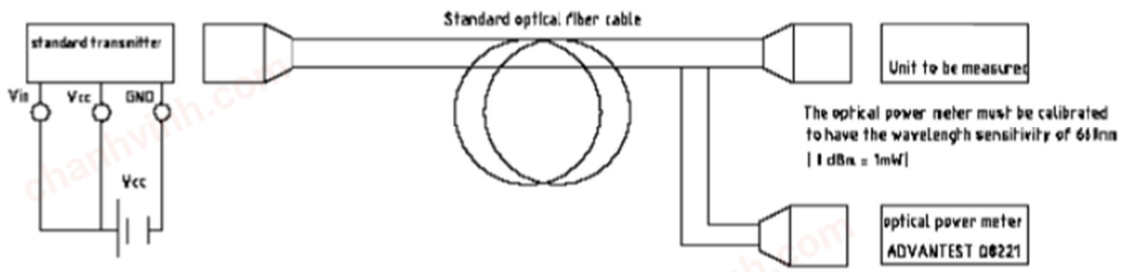
PCB Layout



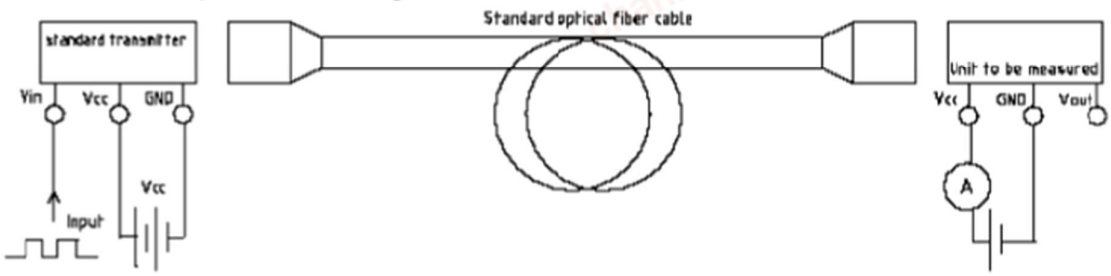
Notes:
1. Unit: mm
2. Unspecified tolerance: ±0.3mm
3. Substrate Thickness:1.6mm

Measuring Method

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



*2 Current dissipation measuring method



*3 Pulse response and jitter measuring method

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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.

