



Photo Link

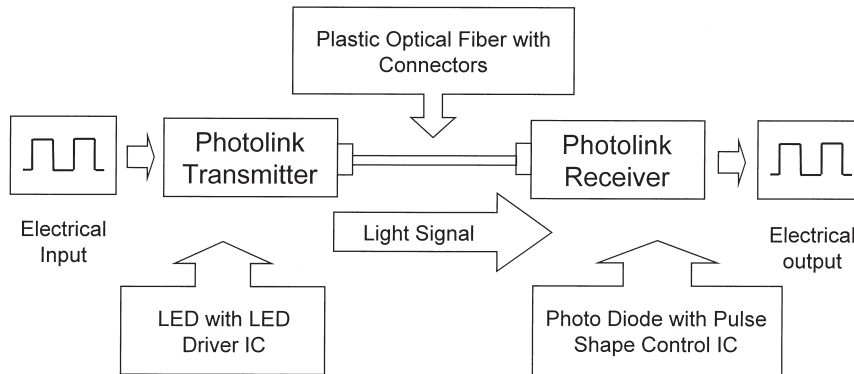
PhotoLink : Digital Audio Signal Transmission by Plastic Optical Fiber.

Plastic Optical Fiber, abbreviated POF, typically uses PMMA (acrylic), a general purpose resin as the core material, and fluorinated polymers for the clad material. In large-diameter fibers, 96% of the cross section is the core that allows the transmission of light. POF had been called the "consumer" optical fiber, It has fiber diameter of 1000 μm , with a core diameter of 980 μm .

POF has been used for transmission due to the fact that costs of POF, associated optical links, connectors and installation costs are low.

Photo Link

Construction of Photolink (Transmitter and Receiver)



Photolink Transmitter (TA/TX)

- Constructed by **red-light LED** and **LED driver**
- Converting electrical signal into optical one
- Transmitting optical signal into optical fiber

Photolink Receiver (RA/RX)

- Constructed by **photo diode** and **pulse shape control IC**
- Receiving the optical signal from optical fiber
- Converting optical signal into electrical one

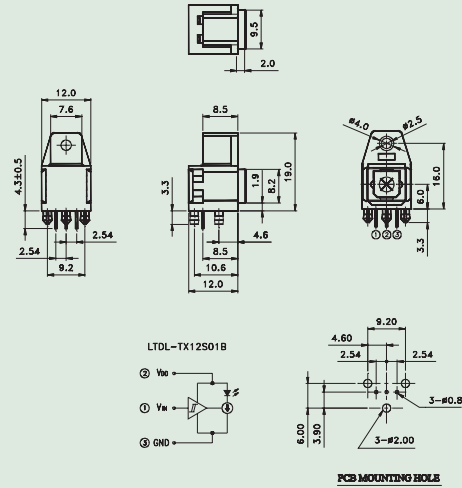
Photolink Product Family

	Component	Component + Housing = Connector
Photolink Transmitter (TA/TX)	Transmitter Component LTDL-TA12A LTDL-TA12B	Transmitter Connector LTDL-TX12P series (Cap Housing) LTDL-TX12S series (Shutter Housing)
Photolink Receiver (RA/RX)	Receiver Component LTDL-RA12A LTDL-RA12B	Receiver Connector LTDL-RX16P series (Cap Housing) LTDL-RX16S series (Shutter Housing)
Customers	Connector Marks	Consumer Field DVD Player, DVR, MD (Mini Disk), Stereo System, Game Console, STB (Set-Top Box) Consumer Field Mother Board, NB, Sound Card

Photolink Module



Transmitter
Receiver
Component

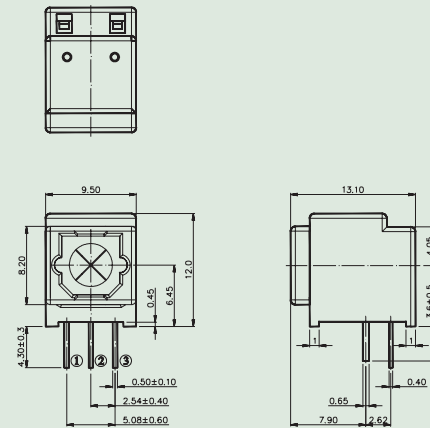


Part No.	Description			
	Electrical Optical Characteristics	Application	Dimension (WxHxD)mm	Remark
LTDL-TX12S01B	refer to LTDL-TA12B	DVD, Stereo System STB, Desktops	12.0x19.0x12.0	Shutter Type Connector
LTDL-RX16S01B	refer to LTDL-RA12A	DVD, Stereo System STB, Desktops	12.0x19.0x12.0	Shutter Type Connector

Photolink Module



Transmitter
Receiver
Component



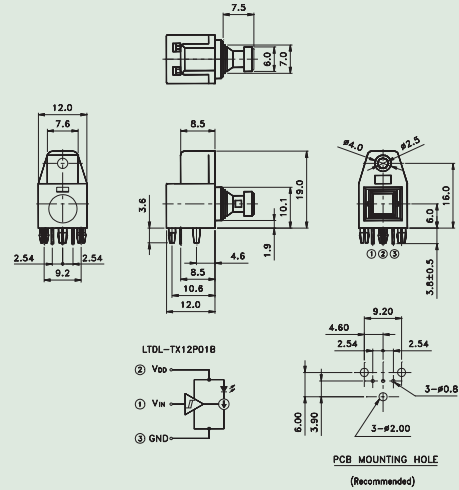
Part No.	Description			
	Electrical Optical Characteristics	Application	Dimension (WxHxD)mm	Remark
LTDL-TX12S05	refer to LTDL-TA12B	NB, Sound Card Portable AV Devices	9.5x12.0x13.1	Shutter Type Connector
LTDL-RX16S05	refer to LTDL-RA12A	NB, Sound Card Portable AV Devices	9.5x12.0x13.1	Shutter Type Connector



Photolink Module

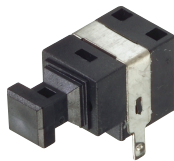


Transmitter
Receiver
Component

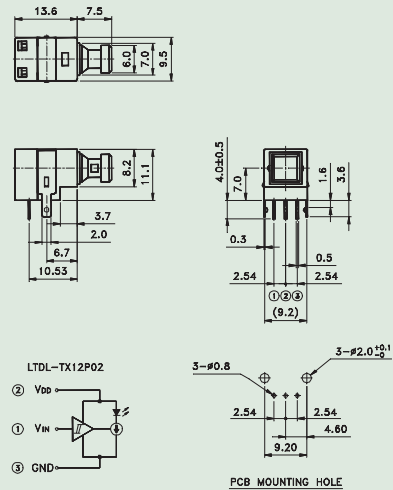


Part No.	Description			
	Electrical Optical Characteristics	Application	Dimension (WxHxD)mm	Remark
LTDL-TX12P01B	refer to LTDL-TA12B	DVD, Stereo System STB, Desktops	12.0x19.0x12.0	Cap Type Connector Compatible with Sharp
LTDL-RX16P01B	refer to LTDL-RA12B	DVD, Stereo System STB, Desktops	12.0x19.0x12.0	Cap Type Connector Compatible with Sharp

Photolink Module



Transmitter
Receiver
Component

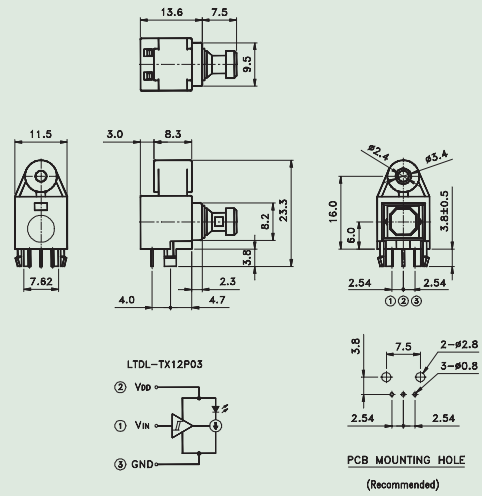


Part No.	Description			
	Electrical Optical Characteristics	Application	Dimension (WxHxD)mm	Remark
LTDL-TX12P02	refer to LTDL-TA12B	NB, Sound Card Portable AV Devices	9.2x11.1x13.6	Cap Type Connector Compatible with Sharp
LTDL-RX16P02	refer to LTDL-RA12A	NB, Sound Card Portable AV Devices	9.2x11.1x13.6	Cap Type Connector Compatible with Sharp

Photolink Module



Transmitter
Receiver
Component

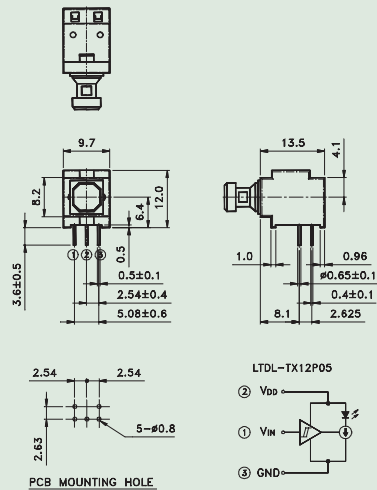


Part No.	Description			
	Electrical Optical Characteristics	Application	Dimension (WxHxD)mm	Remark
LTDL-TX12P03	refer to LTDL-TA12B	DVD, Stereo System STB, Desktops	11.5x19.5x13.6	Cap Type Connector Compatible with Toshiba
LTDL-RX16P03	refer to LTDL-RA12B	DVD, Stereo System STB, Desktops	11.5x19.5x13.6	Cap Type Connector Compatible with Toshiba

Photolink Module



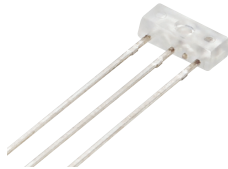
Transmitter
Receiver
Component



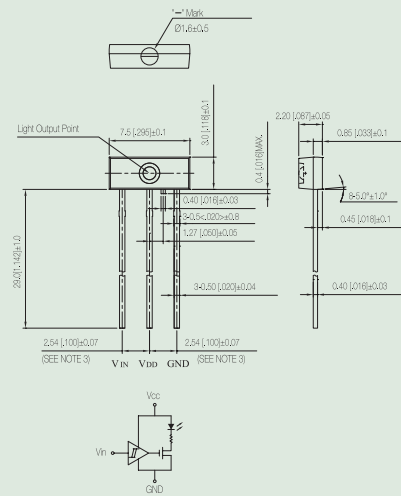
Part No.	Description			
	Electrical Optical Characteristics	Application	Dimension (WxHxD)mm	Remark
LTDL-TX12P05	refer to LTDL-TA12B	NB, Sound Card Portable AV Devices	9.7x12.0x13.5	Cap Type Connector Compatible with Toshiba
LTDL-TX16P05	refer to LTDL-RA12A	NB, Sound Card Portable AV Devices	9.7x12.0x13.5	Cap Type Connector Compatible with Toshiba



Photolink Transmitter Component

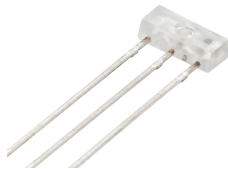


Transmitter Component

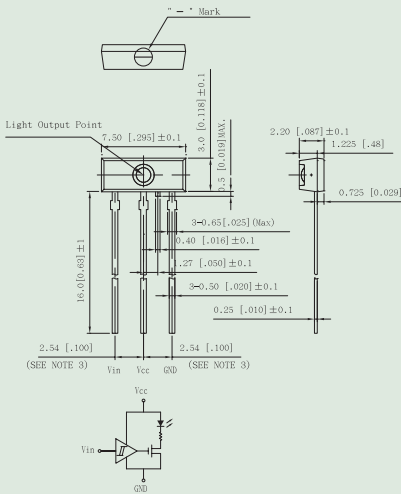


Part No.	Description			Propagation Delay Time		Dissipation Current I _{DD} (mA)Max.	Pulse Width Distortion Δtw(ns)	Pin Thickness (mm)
	Supply Voltage (V)	Transmission Speed(Mbps)	Coupling Light Output(dBm)	t _{PLH} (ns) Max.	t _{PHL} (ns) Max.			
LTDL-TA12A	2.75 ~ 5.25	13.2	-21 ~ -15	166	155	8	±18	0.4
LTDL-TA12B	2.75 ~ 5.25	13.2	-21 ~ -15	166	155	8	±18	0.4
LTDL-TA16A	2.75 ~ 5.25	16	-21 ~ -15	100	100	11	±15	0.4
LTDL-TA50A	2.75 ~ 5.25	50	-21 ~ -15	80	80	11	±10	0.4

Photolink Transmitter Component



Transmitter Component

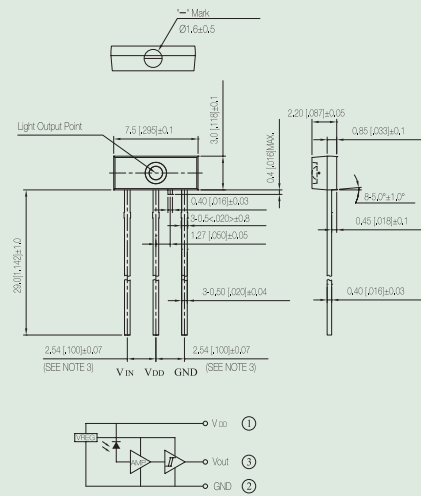


Part No.	Description			Propagation Delay Time		Dissipation Current I _{DD} (mA)Max.	Pulse Width Distortion Δtw(ns)	Pin Thickness (mm)
	Supply Voltage (V)	Transmission Speed(Mbps)	Coupling Light Output(dBm)	t _{PLH} (ns) Max.	t _{PHL} (ns) Max.			
LTDL-TA16A-T	2.75 ~ 5.25	16	-21 ~ -15	100	100	11	±15	0.25

Photolink Receiver Component



Receiver Component

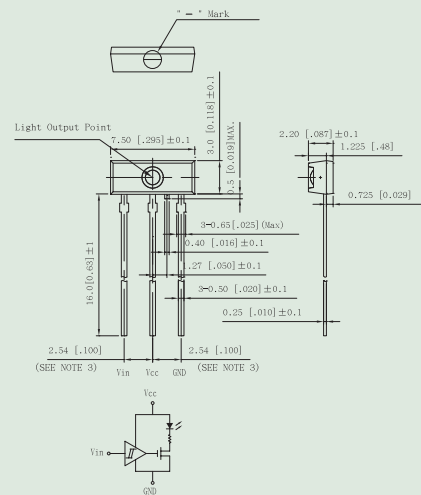


Part No.	Description			Propagation Delay Time		Dissipation Current I _{DD} (mA)Max.	Pulse Width Distortion Δt_w (ns)	Pin Thickness (mm)
	Supply Voltage (V)	Transmission Speed(Mbps)	Coupling Light Output(dBm)	t _{PLH} (ns) Max.	t _{PHL} (ns) Max.			
LTDL-RA12A	4.75 ~ 5.25	13.2	-24 ~ -14	100	100	6	±25	0.4
LTDL-RA12B	2.40 ~ 3.60	13.2	-24 ~ -14	166	155	6	±25	0.4
LTDL-RA16A	2.75 ~ 5.25	16	-21 ~ -15	100	100	6	±25	0.4

Photolink Receiver Component



Receiver Component



Part No.	Description			Propagation Delay Time		Dissipation Current I _{DD} (mA)Max.	Pulse Width Distortion Δt_w (ns)	Pin Thickness (mm)
	Supply Voltage (V)	Transmission Speed(Mbps)	Coupling Light Output(dBm)	t _{PLH} (ns) Max.	t _{PHL} (ns) Max.			
LTDL-RA16A-T	2.75 ~ 5.25	16	-21 ~ -15	100	100	6	±25	0.25

Note: The difference between LTDL-TAxxA vs LTDL-TA12B

V _{DD}	V _{in}	LTDL-TAxxA LED Signal	LTDL-TA12B LED Signal
2.75V ~ 5.25V	High	ON	ON
	Low	OFF	OFF
	Floating	OFF	ON/OFF
Floating	High	OFF	ON
	Low	OFF	OFF

Mouser Electronics

Authorized Distributor

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