



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



## Contact us

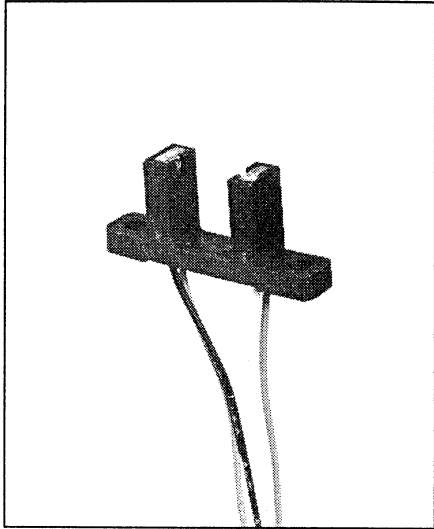
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# Deep Gap Slotted Optical Switch Type OPB815W

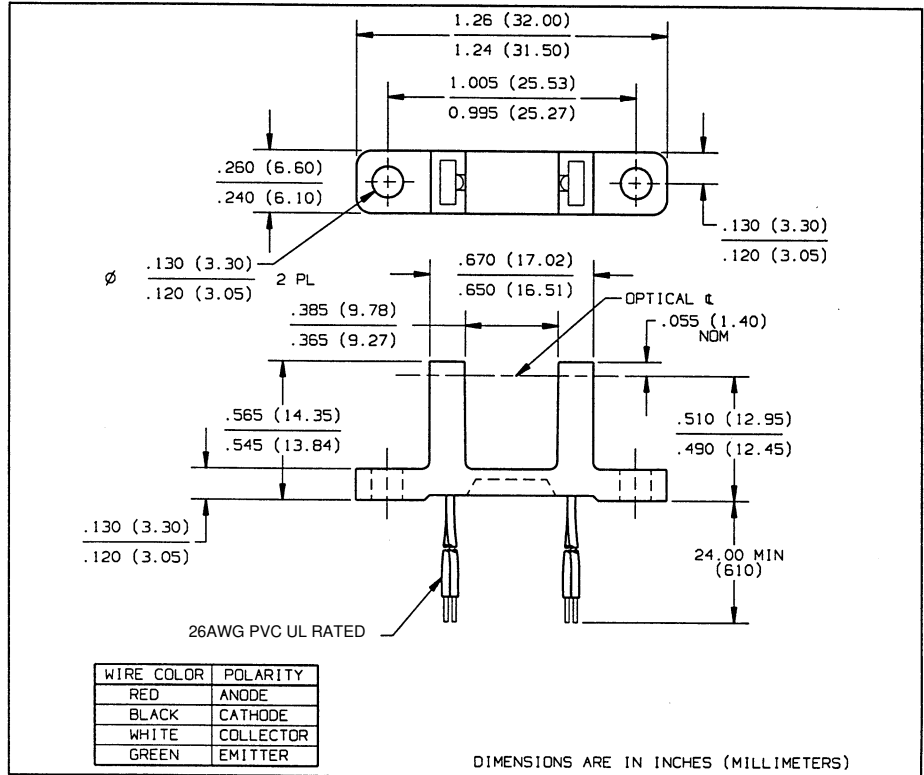


## Features

- Non-contact switching
- 24" minimum, 26 AWG wire leads
- 0.375" (9.53 mm) wide slot
- 0.430" (10.92 mm) deep slot

## Description

The OPB815W consists of an infrared emitting diode and an NPN silicon phototransistor mounted in a low cost plastic housing on opposite sides of a 0.375" (9.53 mm) wide, 0.430" (10.9 mm) deep slot. Phototransistor switching takes place whenever an opaque object passes through the slot. Available with PC board mountable leads as OPB815L.



## Absolute Maximum Ratings (T<sub>A</sub> = 25° C unless otherwise noted)

Storage and Operating Temperature ..... -40° C to +80° C  
 Lead Soldering Temperature [1/16 inch (1.6 mm) from case for 5 sec. with soldering iron]..... 240° C<sup>(1)</sup>

## Input Diode

Continuous Forward Current ..... 50 mA  
 Peak Forward Current (1 μs pulse width, 300 pps) ..... 3.0 A  
 Reverse Voltage ..... 2.0 V  
 Power Dissipation ..... 100 mW<sup>(2)</sup>

## Output Phototransistor

Collector-Emitter Voltage ..... 30 V  
 Emitter-Collector Voltage ..... 5.0 V  
 Power Dissipation ..... 100 mW<sup>(2)</sup>

## Notes:

- (1) RMA flux is recommended. Duration can be extended to 10 sec. max when flow soldering.
- (2) Derate linearly 1.67 mW/° C above 25° C.
- (3) Methanol or isopropanol are recommended as cleaning agents. Plastic housing is soluble in chlorinated hydrocarbons and ketones.
- (4) All parameters tested using pulse technique.



For RoHS compliant devices add "Z" to the end of the part number: OPB815WZ

# Type OPB815W

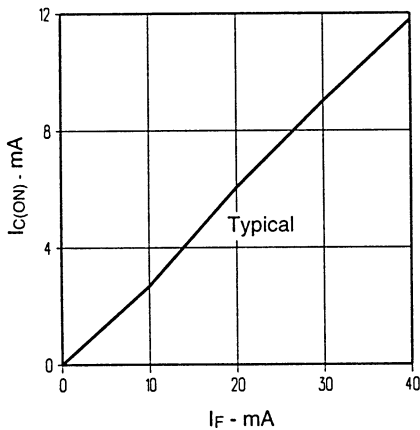
Electrical Characteristics ( $T_A = 25^\circ\text{C}$  unless otherwise noted)

SYMBOL	PARAMETER	MIN	MAX	UNITS	TEST CONDITIONS
<b>Input Diode</b>					
$V_F$	Forward Voltage		1.70	V	$I_F = 20\text{ mA}$
$I_R$	Reverse Current		100	$\mu\text{A}$	$V_R = 2.0\text{ V}$
<b>Output Phototransistor</b>					
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	30		V	$I_C = 1.00\text{ mA}$
$V_{(BR)ECO}$	Emitter-Collector Breakdown Voltage	5.0		V	$I_E = 100\ \mu\text{A}$
$I_{CEO}$	Collector-Emitter Dark Current		100	nA	$V_{CE} = 10.0\text{ V}, I_F = 0, E_e = 0$
<b>Coupled</b>					
$V_{CE(SAT)}$	Collector-Emitter Saturation Voltage		0.40	V	$I_C = 500\ \mu\text{A}, I_F = 20\text{ mA}$
$I_{C(ON)}$	On-State Collector Current	1		mA	$V_{CE} = 10.0\text{ V}, I_F = 20\text{ mA}$

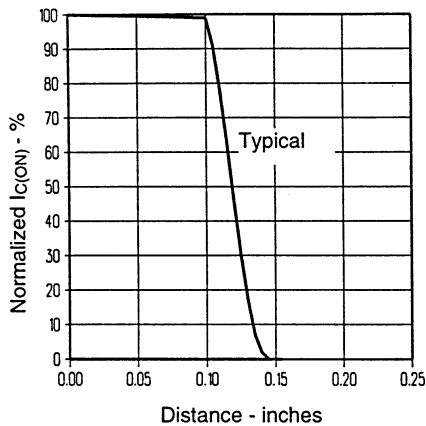
SLOTTED OPTICAL SWITCHES

## Typical Performance Curves

Collector Current vs LED Drive



Normalized  $I_{C(ON)}$  vs Distance (X Axis Blocked)



Normalized  $I_{C(ON)}$  vs Distance (Y Axis Blocked)

