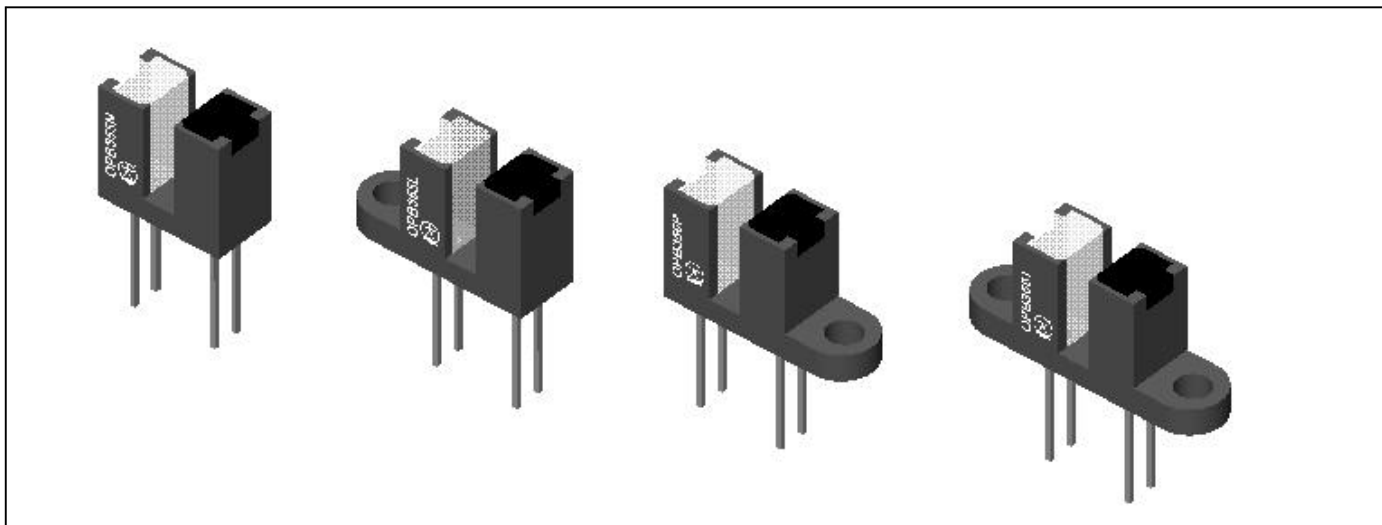


# Slotted Optical Switches

## Type OPB355 Series (Photodiode Output)



### Features

- 0.125" (3.18 mm) wide gap
- Choice of mounting configuration

### Description

The OPB355 series of slotted switches provides the design engineer with the flexibility of a custom device from a standard product line. Building from a standard housing with a .125" (3.18 mm) wide slot, the user can specify the mounting tab configuration.

The photodiode output provides a lower but more linear output vs. light input when compared to slotted switches with a standard phototransistor output.

All housings are an opaque grade of injection molded plastic to minimize the assembly's sensitivity to ambient radiation, both visible and near-infrared. Discrete shells (exposed on the parallel faces inside the device throat) are IR transmissive plastic for applications where aperture contamination is a concern.

Custom electrical, wire and cabling is available. Contact your local representative or Optek for more information.

### Absolute Maximum Ratings ( $T_A = 25^\circ \text{C}$ unless otherwise noted)

Storage and Operating Temperature Range . . . . .  $-40^\circ \text{C}$  to  $+85^\circ \text{C}$   
Lead Soldering Temperature Range [1/16 inch (1.6 mm) from case for 5 sec. with soldering iron] . . . . .  $240^\circ \text{C}^{(2)}$

#### Input Diode

Forward DC Current . . . . . 50 mA  
Peak Forward Current (1  $\mu\text{s}$  pulse width, 300 pps) . . . . . 3.0 A  
Reverse DC Voltage . . . . . 2.0 V  
Power Dissipation . . . . . 100 mW<sup>(1)</sup>

#### Output Diode

Reverse Breakdown Voltage . . . . . 60 V  
Power Dissipation . . . . . 100 mW<sup>(1)</sup>

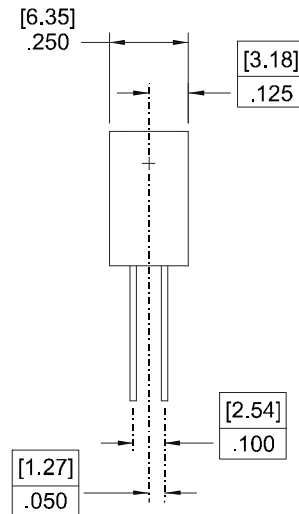
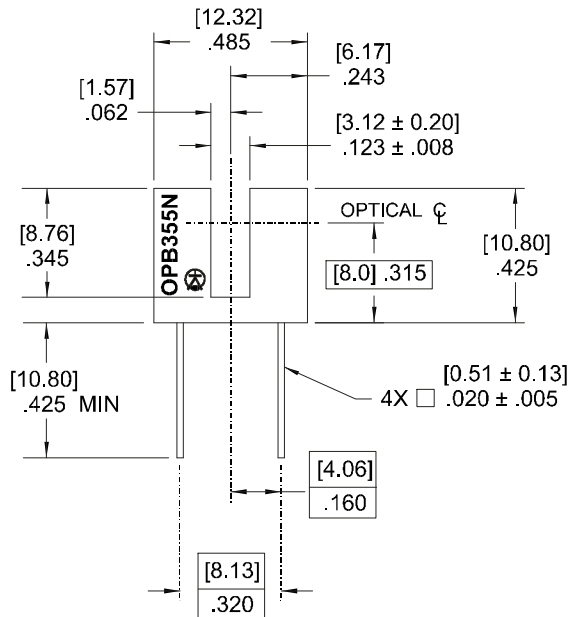
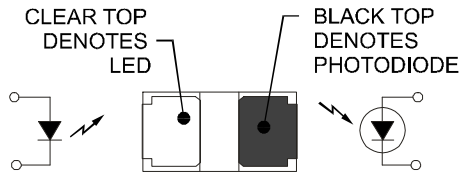
#### NOTES:

- (1) Derate linearly 1.67 mW/ $^\circ \text{C}$  above  $25^\circ \text{C}$ .
- (2) RMA flux is recommended. Duration can be extended to 10 sec. max. when flow soldering.
- (3) All parameters tested using pulse technique.
- (4) Polarity is denoted by color of housing top:  
LED - Clear  
Sensor - Black

**PRECAUTIONS:** Exposure of the plastic body to chlorinated hydrocarbons and ketones such as thread lock and instant adhesive products will degrade the plastic body. Cleaning agents methanol and isopropanol are recommended. Spray or wipe do not submerge.

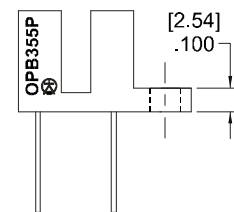
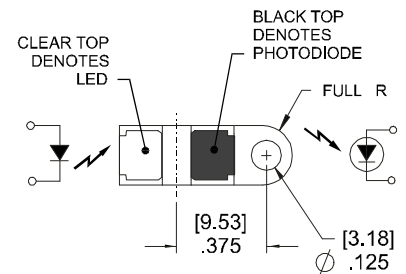
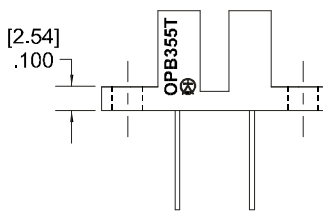
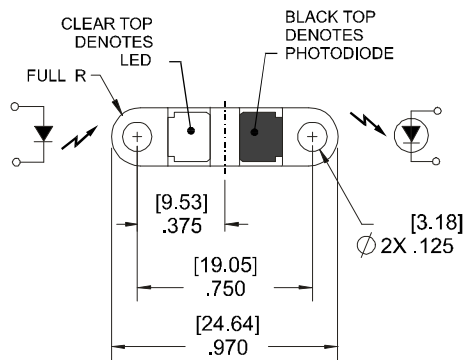
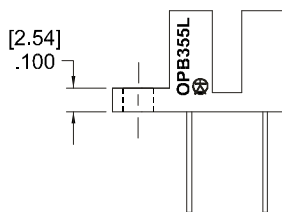
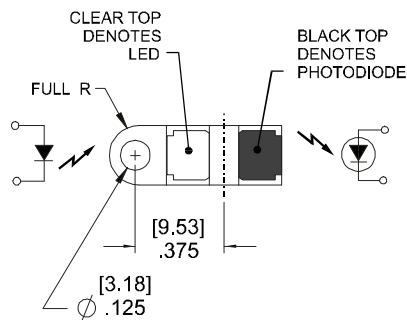
Visit our website at [www.optekinc.com](http://www.optekinc.com)  
or email us at [sensors@optekinc.com](mailto:sensors@optekinc.com)

# Types OPB355 Series



TOLERANCE ± .010 [0.25]

DIMENSIONS ARE IN INCHES [MILLIMETERS]



# Types OPB355 Series

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

| SYMBOL              | PARAMETER                                      | MIN | TYP  | MAX | UNITS         | TEST CONDITIONS  |
|---------------------|--|-----|------|-----|---------------|--|
| <b>Input Diode</b>  |  |     |      |     |               |  |
| $V_F$               | Forward Voltage                                |     | 1.30 | 1.8 | V             | $I_F = 20\text{ mA}$                                   |
| $I_R$               | Reverse Current                                |     |      | 100 | $\mu\text{A}$ | $V_R = 2\text{ V}$                                     |
| <b>Output Diode</b> |  |     |      |     |               |  |
| $V_{BR}$            | Reverse Diode Breakdown Voltage                | 60  |      |     | V             | $I_R = 100\text{ }\mu\text{A}$ , $I_F = 0$ , $E_e = 0$ |
| $V_{FD}$            | Forward Voltage Photodiode                     |     |      | 1.2 | V             | $I_F = 1\text{ mA}$ , $I_F = 0$ , $E_e = 0$            |
| $I_D$               | Reverse Dark Current                           |     |      | 60  | nA            | $V_R = 30\text{ V}$ , $I_F = 0$ , $E_e = 0$            |
| <b>Coupled</b>      |  |     |      |     |               |  |
| $I_L$               | On-State Collector Current<br>OPB355T, N, L, P | 10  |      | 200 | $\mu\text{A}$ | $V_R = 5\text{ V}$ , $I_F = 40\text{ mA}$              |

SLOTTED  
OPTICAL  
SWITCHES

## PART NUMBER GUIDE

**OPB 3 5 5 X**

Optek  
Assembly

Photodiode  
Output Family

Mounting Configurations

T - Both Mounting Tabs  
N - No Mounting Tabs  
L - Single Mounting Tabs  
Emitter Side  
P - Single Mounting Tab  
Photodiode Side

Optek reserves the right to make changes at any time in order to improve design and to supply the best product possible

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