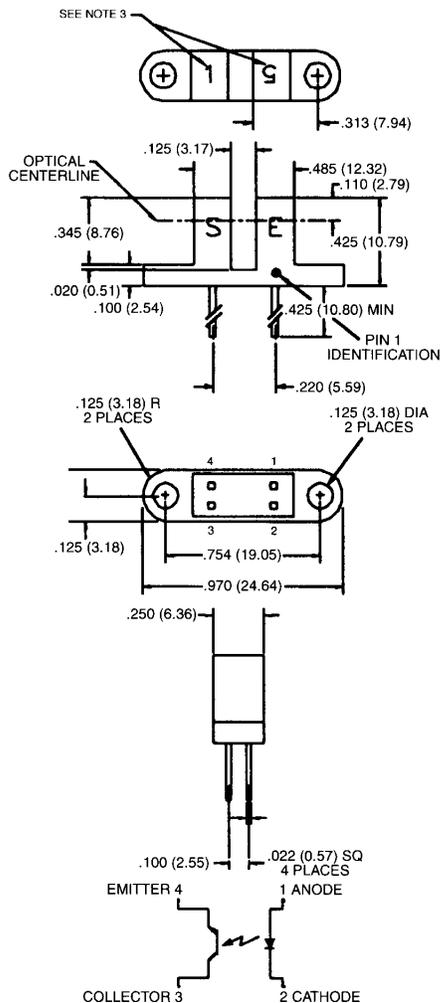


**PACKAGE DIMENSIONS**



ST2127

**NOTES:**

1. DIMENSIONS ARE IN INCHES (mm).
2. TOLERANCE IS  $\pm .010$  (.25) UNLESS OTHERWISE SPECIFIED.
3. NUMBER INDICATES APERTURE SIZE. (5=.050", 1=.010")

**APERTURE OPTIONS:**

	LED	PHOTOTRANSISTOR
OPB867T51	.050	.010
OPB867T55	.050	.050

**DESCRIPTION**

The OPB867T series of switches is designed to allow the user maximum flexibility in applications. Each switch consists of an infrared emitting diode facing an NPN phototransistor across a .125" (3.18 mm) gap. A unique housing design provides a smooth external surface to prevent dust build-up while molded internal apertures give precise positioning and also provide protection from ambient light interference.

**FEATURES**

- Fully enclosed design allows dust and ambient light protection.
- Lead spacing at .220".
- .050" and .010" aperture options.
- PCB mountable.

<b>ABSOLUTE MAXIMUM RATINGS</b> ( $T_A = 25^\circ\text{C}$ Unless Otherwise Specified)	
Storage Temperature .....	$-40^\circ\text{C}$ to $+85^\circ\text{C}$
Operating Temperature .....	$-40^\circ\text{C}$ to $+85^\circ\text{C}$
Soldering:	
Lead Temperature (Iron) .....	$240^\circ\text{C}$ for 5 sec. <sup>(2,3,4)</sup>
Lead Temperature (Flow) .....	$260^\circ\text{C}$ for 10 sec. <sup>(2,3)</sup>
<b>INPUT DIODE</b>	
Continuous Forward Current .....	50 mA
Reverse Voltage .....	5.0 Volts
Power Dissipation .....	100 mW <sup>(1)</sup>
<b>OUTPUT TRANSISTOR</b>	
Collector-Emitter Voltage .....	30.0 Volts
Emitter-Collector Voltage .....	5.0 Volts
Power Dissipation .....	100 mW <sup>(1)</sup>

<b>ELECTRICAL CHARACTERISTICS</b> ( $T_A = 25^\circ\text{C}$ Unless Otherwise Specified)						
PARAMETER	SYMBOL	MIN.	MAX.	UNITS	TEST CONDITIONS	
<b>INPUT DIODE</b>						
Forward Voltage	$V_F$	—	1.70	V	$I_F = 20\text{ mA}$	
Reverse Leakage Current	$I_R$	—	100	$\mu\text{A}$	$V_R = 2.0\text{ V}$	
<b>OUTPUT TRANSISTOR</b>						
Emitter-Collector Breakdown	$BV_{ECO}$	5	—	V	$I_E = 100\ \mu\text{A}$ , $E_e = 0$	
Collector-Emitter Breakdown	$BV_{CEO}$	30	—	V	$I_C = 1.0\text{ mA}$ , $E_e = 0$	
Collector-Emitter Leakage	$I_{CEO}$	—	100	nA	$V_{CE} = 10.0\text{ V}$ , $E_e = 0$	
<b>COUPLED</b>						
On-State Collector Current						
OPB867T51	$I_{C(ON)}$	1.8	—	mA	$I_F = 20\text{ mA}$ , $V_{CE} = 0.6\text{ V}$	
OPB867T55	$I_{C(ON)}$	1.8	—	mA	$I_F = 20\text{ mA}$ , $V_{CE} = 0.6\text{ V}$	
Saturation Voltage	$V_{CE(SAT)}$	—	0.60	V	$I_F = 20\text{ mA}$ , $I_C = 1.8\text{ mA}$	

<b>NOTES</b>
1. Derate power dissipation linearly 1.67 mW/ $^\circ\text{C}$ above $25^\circ\text{C}$ .
2. RMA flux is recommended.
3. Methanol or Isopropyl alcohols are recommended as cleaning agents.
4. Soldering iron tip $1/16"$ (1.6 mm) from housing.



## SLOTTED OPTICAL SWITCH

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