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.

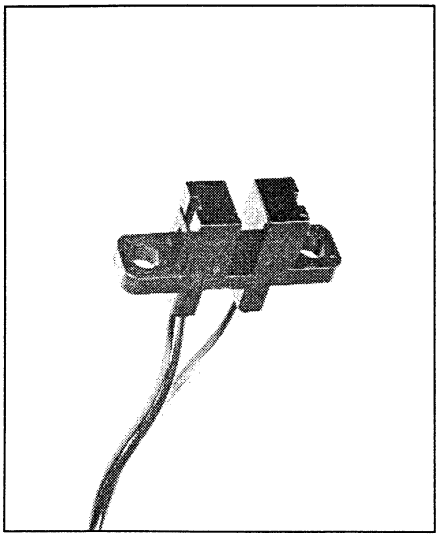
With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC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

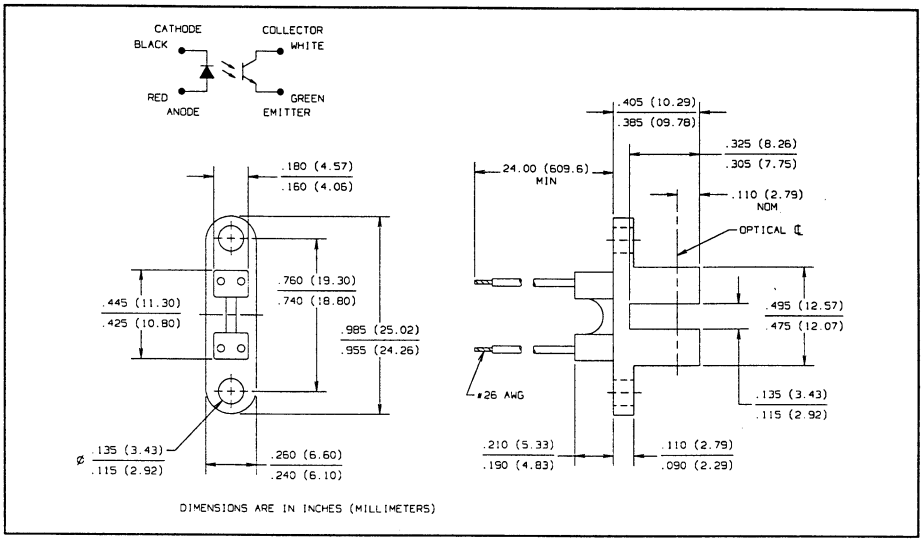
We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832
Email & Skype: info@chipsmall.com Web: www.chipsmall.com
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

Slotted Optical Switches
Types OPB829A, OPB829B, OPB829C, OPB829D





Features

- 24" min. #26 AWG wire leads
- 0.125" (3.18 mm) wide slot
- Inexpensive plastic housing

Description

The OPB829 series consists of an infrared emitting diode and an NPN silicon phototransistor mounted on opposite sides of a .125" (3.18 mm) wide slot. The OPB829A has an IR transmissive housing. The OPB829B has an IR transmissive housing with an 0.010" (0.254 mm) aperture located in front of the phototransistor. The OPB829C has an opaque housing with a molded 0.060" (1.52 mm) aperture located in front of the phototransistor. The OPB829D has an opaque housing with a molded 0.010" (0.254 mm) aperture located in front of the phototransistor. Phototransistor switching takes place whenever an opaque object passes through the slot.

Other configurations available:
OPB827 = 0.300 lead spacing
OPB828 = 0.220 lead spacing

Absolute Maximum Ratings (T_A = 25° C unless otherwise noted)

Storage and Operating Temperature Range ..... -40° C to +80° C
Lead Soldering Temperature [1/16 inch (1.6 mm) from case for 5 sec. with soldering iron] ..... 240° C(2)

Input Diode

Forward DC Current ..... 50 mA
Peak Forward Current (1 µs pulse width , 300 pps) ..... 3.0 A
Reverse DC Voltage ..... 2.0 V
Power Dissipation ..... 100 mW(1)

Output Phototransistor

Collector-Emitter Voltage ..... 30 V
Emitter-Collector Voltage ..... 5.0 V
Collector DC Current ..... 30 mA
Power Dissipation ..... 100 mW(1)

Notes:
(1) Derate Linearly 1.82 mW/° C above 25° 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) Methanol or isopropanol are recommended as cleaning agents. Plastic housing is soluble in chlorinated hydrocarbons and ketones.

Descriptions

Type	Housing	Phototransistor Aperture
OPB829A	IR Transmissive	None
OPB829B	IR Transmissive	0.010"
OPB829C	Opaque	0.060"
OPB829D	Opaque	0.010"

Types OPB829A, OPB829B, OPB829C, OPB829D

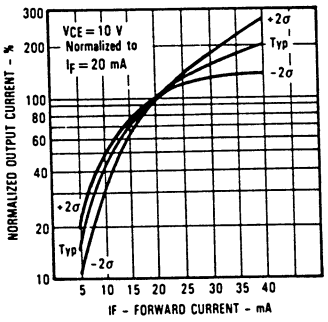
Electrical Characteristics (T_A = 25° C unless otherwise noted)

SYMBOL	PARAMETER	MIN	MAX	UNITS	TEST CONDITIONS
Input Diode					
V_F	Forward Voltage		1.7	V	I_F = 20 mA
I_R	Reverse Current		100	µA	V_R = 2 V
Output Phototransistor					
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	30		V	I_C = 1 mA
$V_{(BR)ECO}$	Emitter-Collector Breakdown Voltage	5.0		V	I_E = 100 µA
I_{CEO}	Collector-Emitter Dark Current		100	nA	V_{CE} = 10V, I_F = 0, E_e = 0
Coupled					
$V_{CE(SAT)}$	Saturation Voltage		0.6	V	I_C = 1800 µA, I_F = 20 mA
$I_{C(ON)}$	On-State Collector Current	1800		µA	V_{CE} = 0.6 V, I_F = 20 mA

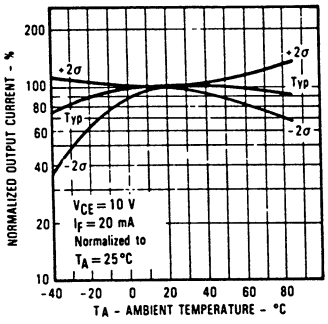
SLOTTED OPTICAL SWITCHES

Typical Performance Curves

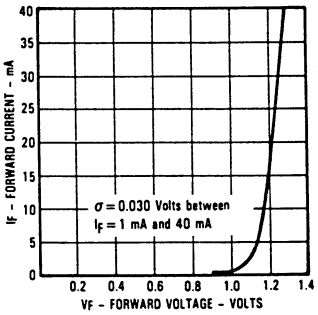
Normalized Output Current vs Forward Current



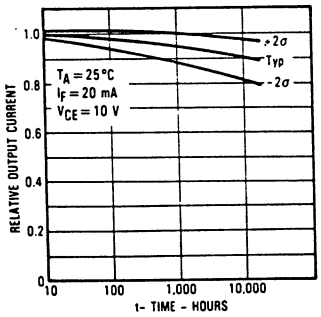
Normalized Output Current vs Ambient Temperature



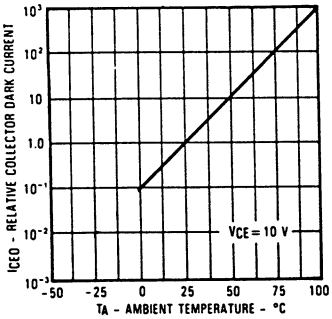
Forward Current vs Forward Voltage Input Diode



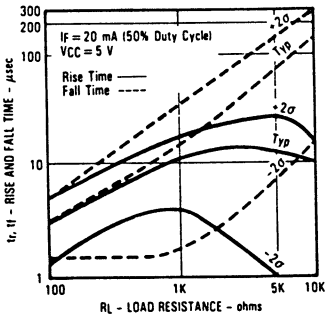
Relative Output Current vs Time



Collector Dark Current vs Ambient Temperature



Rise and Fall Time vs Load Resistance



Reduction in Output Current Due to LED Heating vs Forward Current