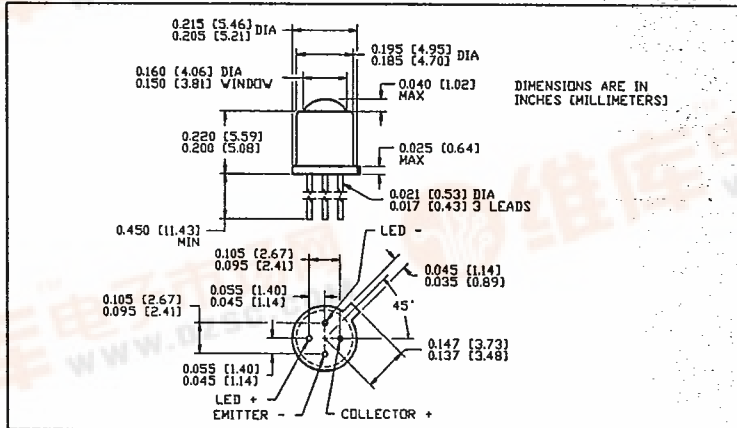
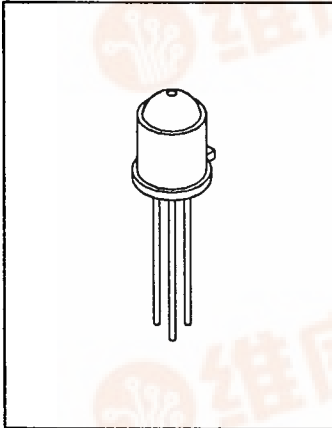


R-300

FASCO INDS/ SENISYS

MICRO-SKAN[®] Reflective Optical Switch



Features

- detects objects to 0.010" (0.25mm)
- optimum distance 0.020" (0.5mm)
- small physical size
- coaxial optical system
- wavelength-filtered sensor

Description

The R-300 reflective sensor consists of an aluminum gallium arsenide IRED and a silicon phototransistor mounted on a custom TO-72 header. The unit directs energy from the IRED to the target; reflected energy is received by a glass fiber optic rod at the lens center and transmitted through an ambient light filter to the phototransistor. Peak response is at 880 nm but is filtered -26 dB at 750 nm and -60 dB at 700 nm and below. For additional information, call Senisys for applications assistance.

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

Storage and Operating Temperature.....-40°C to +50°C
Lead Soldering Temperature⁽¹⁾..... 240°C⁽²⁾

IRED

Continuous Forward Current..... 60mA
Peak Forward Current (1µs pulse width, 300pps)..... 2A
Reverse Voltage 3V
Power Dissipation 100mW⁽³⁾

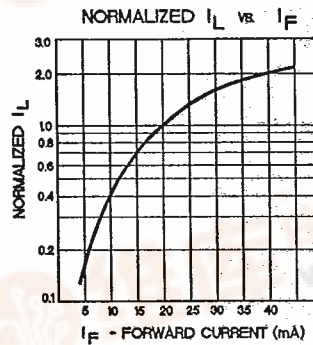
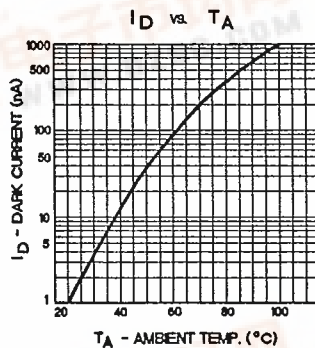
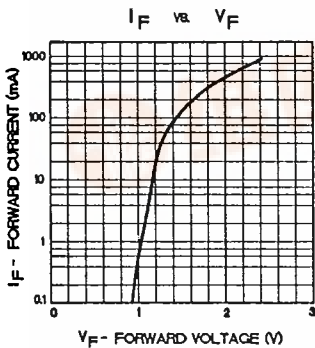
Sensor

Collector-Emitter Voltage 30V
Emitter-Collector Voltage 5V
Power Dissipation 100mW⁽³⁾

Notes:

1. 0.06" (1.5mm) from the case for 5 seconds maximum. (device leads)
2. 260°C maximum when wave soldering. (device leads)
3. Derate linearly from 25°C to T_A = 50°C at -2.00 mW/°C.

Fundamental Characteristics



Senisys • 1600 West Plano Parkway • Plano, Texas 75075 • Phone: 214-422-1844 • FAX: 214-423-4661



R-300

FASCO INDS/ SENISYS



MICRO-SKAN[®] Reflective Optical Switch

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

Symbol	Parameter	min	max	units	Test Conditions
Input Diode					
V _F	Forward Voltage	1.10	1.60	V	I _F = 60mA
I _R	Reverse Current	-	100	μA	V _R = 2.0V
Output Phototransistor⁽¹⁾					
V _{(BR)CEO}	Collector-Emitter Breakdown Voltage	30	-	V	I _C = 1mA
V _{(BR)ECO}	Emitter-Collector Breakdown Voltage	5.0	-	V	I _E = 100μA
I _D	Dark Current	-	100	nA	V _{CE} = 10V, E ₀ = 0
Coupled					
I _L	Light Current ^{(2) (3)}	0.1	2.0	mA	I _F = 60mA, V _{CE} = 5V, d = 0.020"

Notes:

1. Radiation outside the sensitivity range of the device may be present during these measurements. Sufficient protection has been provided when the parameter being measured cannot be altered by further irradiation shielding.
2. Other ranges of light current can be specified; call Senisys for applications assistance.
3. 'd' is the distance from the front surface of the optical fiber to a Kodak 90% diffuse reflectance neutral test card; for all testing, d = 0.020" (0.51mm).

Typical Characteristics

