

NPN EPITAXIAL DARLINGTON PHOTOTRANSISTOR PHOTO DETECTOR

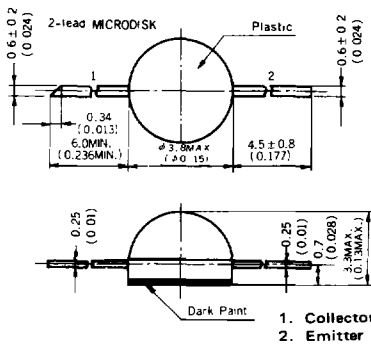
— NEPOC SERIES —

DESCRIPTION

The PH101 is a miniature NPN silicon phototransistor having exceptionally stable characteristics and high illuminance sensitivity mounted in a two-terminal MICRODISK package. The spectral response, extending from 4,000 to 10,000Å, is compatible with daylight, tungsten, and gallium arsenide sources. The packaging of this unit permits close-spacing in linear arrays. Its low cost and volume producibility opens new areas of use anywhere a photo detector is desirable.

PACKAGE DIMENSIONS

in millimeters (inches)



* Soldering conditions are at 260°C or less within 5sec. at 3 mm or farther from the case.

FEATURES

- Low cost.
- Low Leakage Current.
- Wide Spectral Response.
- Convenient MICRODISK Package.
- Wide Temperature Range.
- Compact, Rugged, Light Weight.
- High Sensitivity.

APPLICATIONS

- Optical Switching and Encoding.
- Intrusion Alarm.
- Tape and Card Reader Sensor.
- Level Control
- Motor governor.

ABSOLUTE MAXIMUM RATINGS

Maximum Collector to Emitter Voltage (Ta=25°C)	V _{CEO}	20	V
Maximum Collector Current (Ta=25°C)	I _C	50	mA
Maximum Power Dissipation (Ta=25°C)	P _C	100	mW
Maximum Temperatures (Ta=25°C)			
Junction Temperature	T _j	80	°C
Storage Temperature	T _{stg}	-30 to +80	°C

ELECTRO-OPTICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Collector to Emitter Dark Current	I _{CE01}			0.5	μA	V _{CE} = 15V, L = 0
Collector to Emitter Dark Current	I _{CE02}			500	μA	V _{CE} = 15V, L = 0, Ta = 80°C
Collector Saturation Voltage	V _{CE (sat)}		0.7	1.5	V	I _C = 10 mA, L* = 1,000 lx
Photo Current	I _L	4	12		mA	V _{CE} = 2.0V, L* = 100 lx

* Measured with a tungsten filament lamp operated at a color temperature of 2854°K.

TYPICAL CHARACTERISTICS (Ta = 25°C)

PHOTO CURRENT vs. COLLECTOR TO EMITTER VOLTAGE

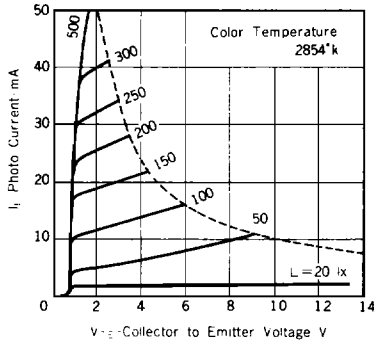
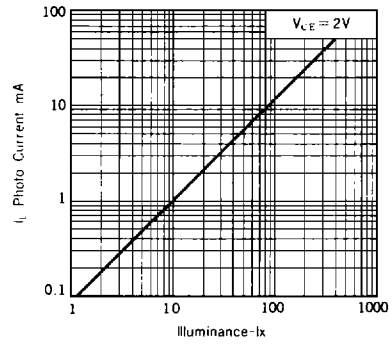
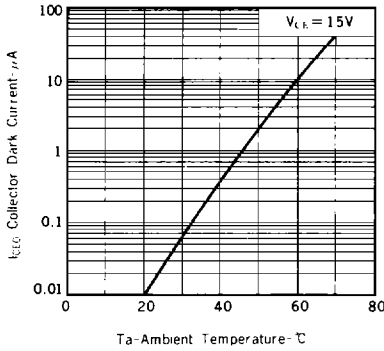


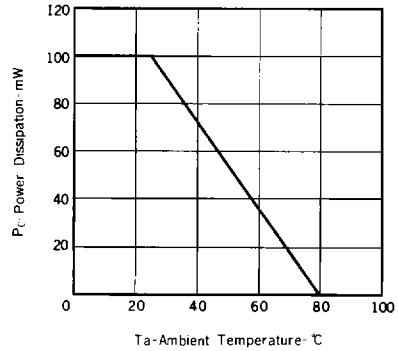
PHOTO CURRENT vs. ILLUMINANCE



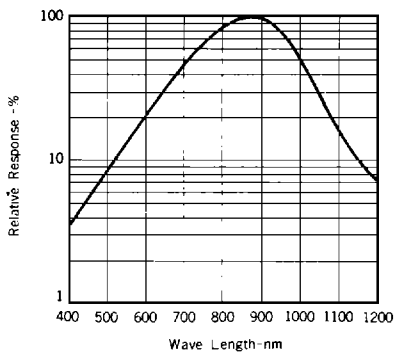
COLLECTOR DARK CURRENT vs. AMBIENT TEMPERATURE



POWER DISSIPATION vs. AMBIENT TEMPERATURE



SPECTRAL RESPONSE



ANGULAR RESPONSE

