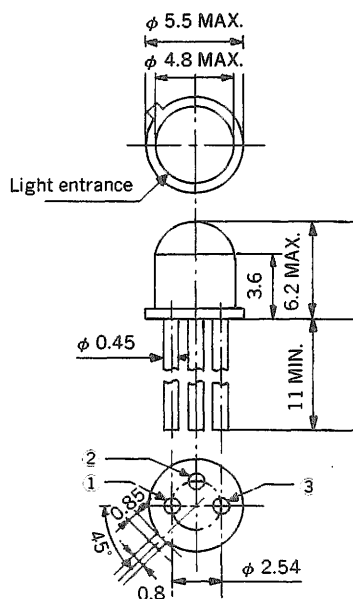


NPN EPITAXIAL TYPE SILICON PHOTO TRANSISTOR

PACKAGE DIMENSIONS (Unit: mm)



1. Emitter
2. Base
3. Collector

Precautions for handling:

1. When the device is soldered, each lead should be soldered with a length of 1.5 mm or more, at a temperature of 260 °C or less, in a soldering time of 5 sec. or less.

PT8L is an NPN epitaxial type silicon transistor using TO-18 metal stem and glass lens.

Since this device has high mechanical strength and high environmental resistance, it can be used as a high reliability light receiving device.

FEATURES

- High response speed
- Wide range of operating temperature
- Good linearity between light input and electric output
- Good conformity of peak value of light receiving sensitivity with the spectrum of infrared ray emitting device (SE301A)

QUALITY GRADE

Standard

Please refer to "Quality grade on NEC Semiconductor Devices" (Document number IEI-1209) published by NEC Corporation to know the specification of quality grade on the devices and its recommended applications.

APPLICATIONS

- Various photoelectric switches
- Light receiving blocks of photocouplers and photo interrupters
- Optical choppers

ABSOLUTE MAXIMUM RATINGS ($T_a = 25\text{ }^\circ\text{C}$)

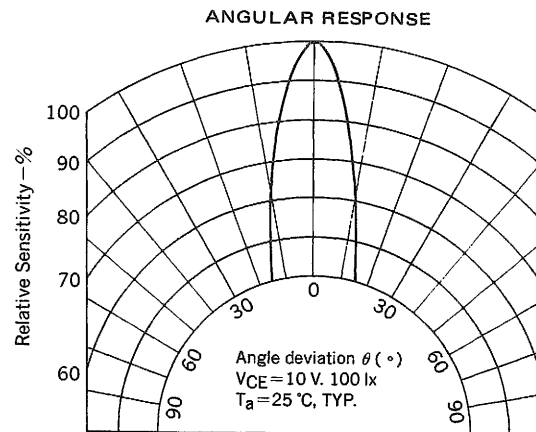
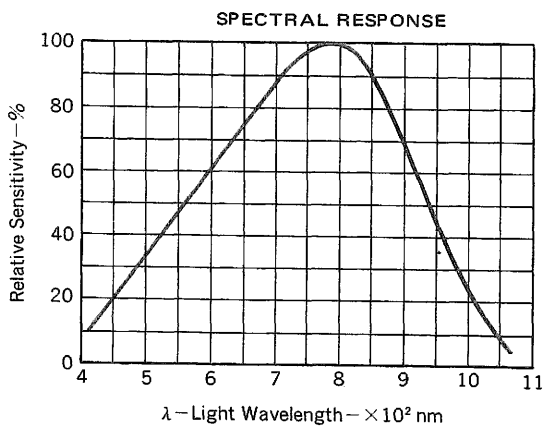
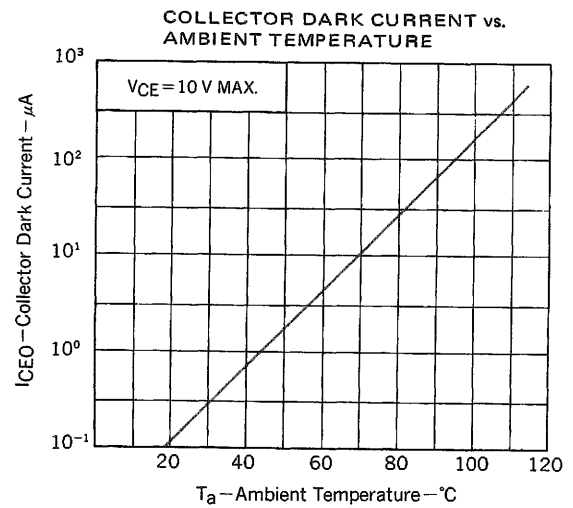
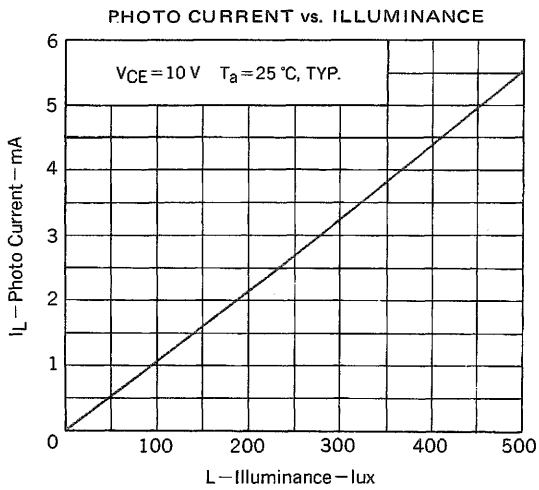
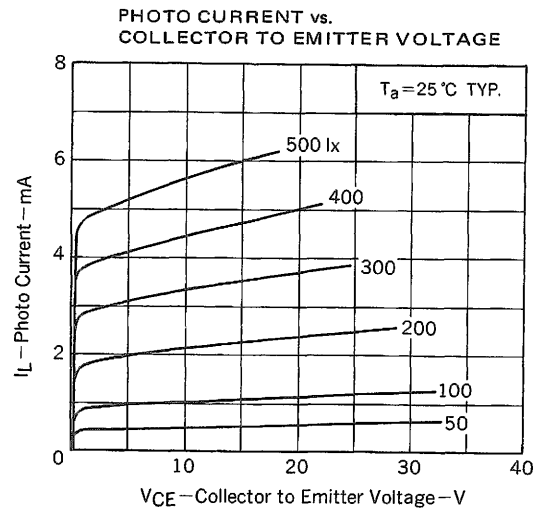
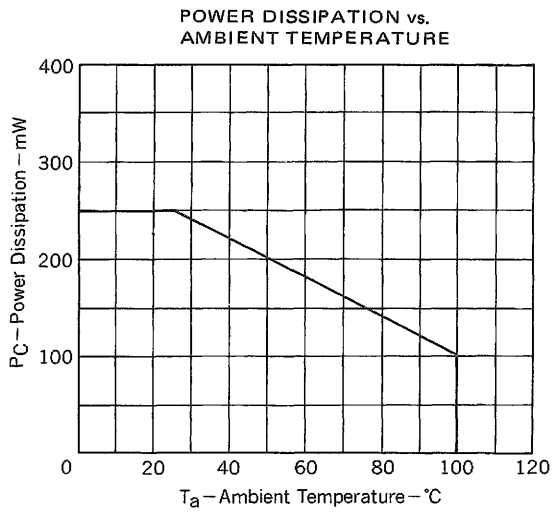
Collector to Emitter Voltage	V_{CE0}	30	V
Collector to Base Voltage	V_{CB0}	30	V
Emitter to Base Voltage	V_{EB0}	5	V
Collector Current	I_C	30	mA
Power Dissipation	P_C	250	mW
Junction Temperature	T_j	150	$^\circ\text{C}$
Operating Temperature	T_{opt}	-20 to +100	$^\circ\text{C}$
Storage Temperature	T_{stg}	-40 to +150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ($T_a = 25\text{ }^\circ\text{C}$)

CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Collector Dark Current	I_{CE01}			200	nA	$V_{CE} = 10\text{ V}$, $L = 0\text{ lx}$
Collector Dark Current	I_{CE02}			200	μA	$T_a = 100\text{ }^\circ\text{C}$, $V_{CE} = 10\text{ V}$, $L = 0\text{ lx}$
Photo Current	I_L	250			μA	$V_{CE} = 10\text{ V}$, $L^* = 200\text{ lx}$
Collector Saturation Voltage	$V_{CE(sat)}$			0.3	V	$I_C = 0.1\text{ mA}$, $L^* = 500\text{ lx}$
Rise Time	t_r		5		μs	$V_{CC} = 10\text{ V}$, $I_C = 2\text{ mA}$, $R_L = 100\ \Omega$
Fall Time	t_f		5		μs	$V_{CC} = 10\text{ V}$, $I_C = 2\text{ mA}$, $R_L = 100\ \Omega$
DC Current Amplification Factor	h_{FE}	50				$V_{CE} = 5\text{ V}$, $I_C = 4\text{ mA}$

* Light source color temperature = 2 854 K

TYPICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)



[MEMO]

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The devices listed in this document are not suitable for use in the field where very high reliability is required including, but not limited to, aerospace equipment, submarine cables, unclear reactor control systems and life support systems. If customers intend to use NEC devices for above applications or those inted to use "Standard", or "Special" quality grade NEC devices for the applications not intended by NEC, please contact our sales people in advance.

Application examples recomended by NEC Corporation

Standard: Data processing and office equipment, Communication equipment (terminal, mobile). Test and Measurement equipment, Audio and Video equipment, Other consumer products, etc.

Special: Automotive and Transportation equipment, Communication equipment (trunk line), Train and Traffic control devices, industrial robots, Burning control systems, antidisaster systems, anticrime systems etc.