

TOSHIBA PHOTO TRANSISTOR SILICON NPN EPITAXIAL PLANAR

# TPS618

PHOTO TRANSISTOR FOR PHOTO INTERRUPTER

Unit in mm

PHOTOELECTRIC COUNTER

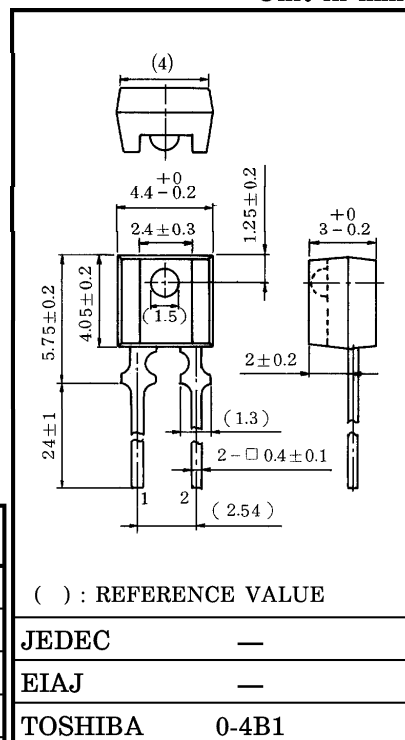
POSITION AND ROTATIONAL SPEED SENSOR

AUTOMATIC CONTROL UNIT

- Fast response speed
- The same external shape as the infrared LED TLN107A, and is best suited for combination with TLN107A as a photo interrupter.
- Visible light cut type (black package)

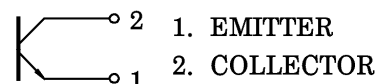
MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Emitter Voltage	V <sub>CEO</sub>	30	V
Emitter-Collector Voltage	V <sub>ECO</sub>	5	V
Collector Current	I <sub>C</sub>	50	mA
Collector Power Dissipation	P <sub>C</sub>	75	mW
Collector Power Dissipation Derating (Ta > 25°C)	ΔP <sub>C</sub> / °C	-1	mW / °C
Operating Temperature Range	T <sub>opr</sub>	-25~85	°C
Storage Temperature Range	T <sub>stg</sub>	-40~100	°C



Weight : 0.16g (TYP.)

PIN CONNECTION



OPTO-ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Dark Current	I <sub>D</sub> (I <sub>CEO</sub> )	V <sub>CE</sub> = 24V, E = 0	—	0.005	0.1	μA
Light Current (Note 1)	I <sub>L</sub>	V <sub>CE</sub> = 3V, E = 0.1mW / cm <sup>2</sup> (Note 2)	27	70	—	μA
Collector-Emitter Saturation Voltage	V <sub>CE</sub> (sat)	I <sub>C</sub> = 10μA, E = 0.1mW / cm <sup>2</sup> (Note 2)	—	0.15	0.4	V
Switching Time	Rise Time	V <sub>CC</sub> = 5V, I <sub>C</sub> = 2mA, R <sub>L</sub> = 100Ω	—	6	—	μs
	Fall Time		—	6	—	
Peak Sensitivity Wavelength	λ <sub>P</sub>	—	—	870	—	nm
Half Value Angle	θ <sub>1/2</sub>	—	—	±15	—	°

Note 1. I<sub>L</sub> Classification A : 27~80μA, B : 55~165μA

2. Color temperature = 2870°K, Standard Tungsten Lamp

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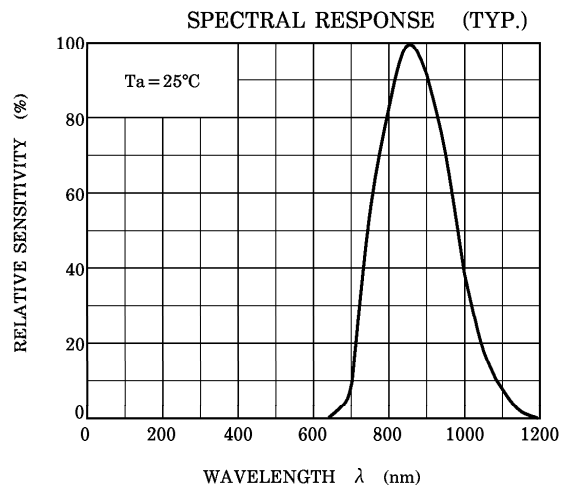
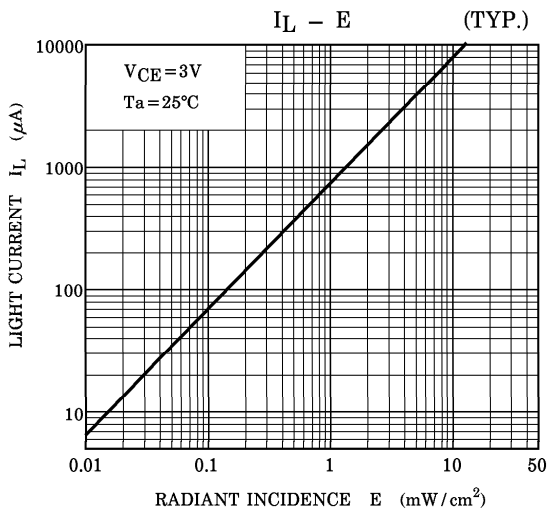
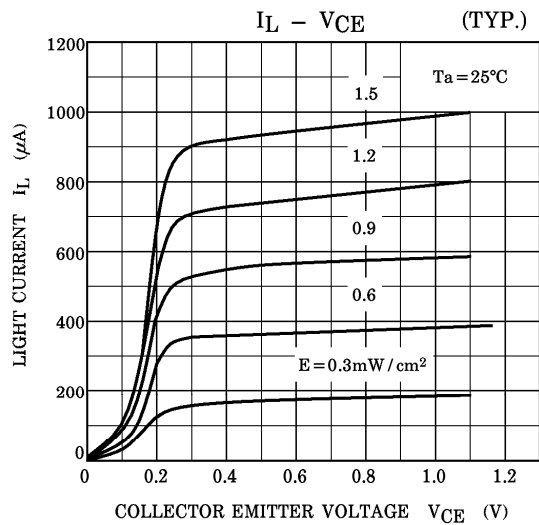
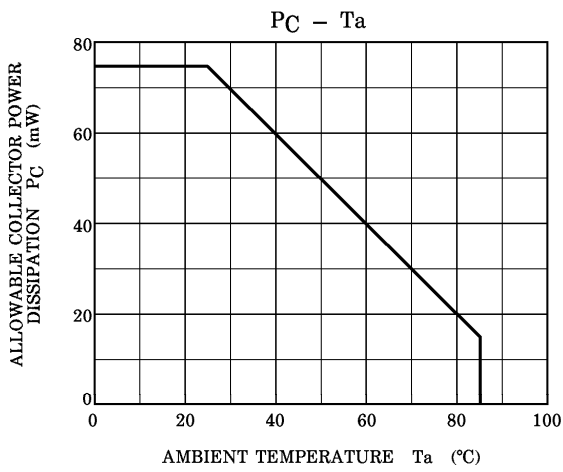
**PRECAUTION**

Please be careful of the followings.

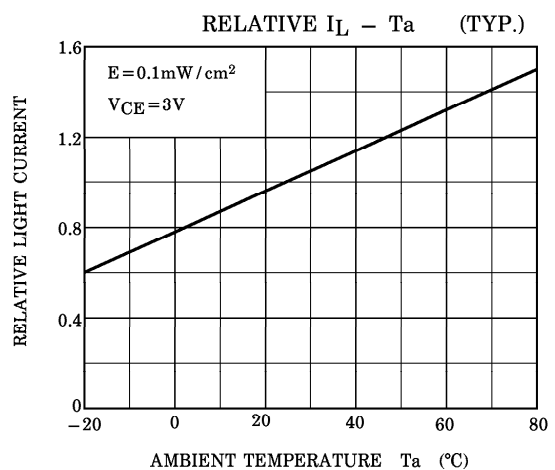
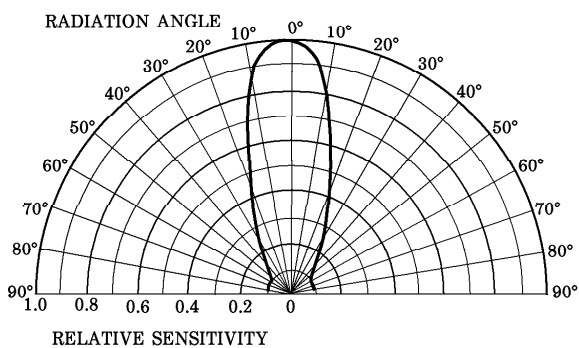
1. Soldering temperature : 260°C MAX. Soldering time : 5s MAX.  
(Soldering portion of lead : above 2mm from the body of the device)
2. If the lead is formed, the lead should be formed at a distance of 2mm from the body of the device.  
Soldering shall be performed after lead forming.

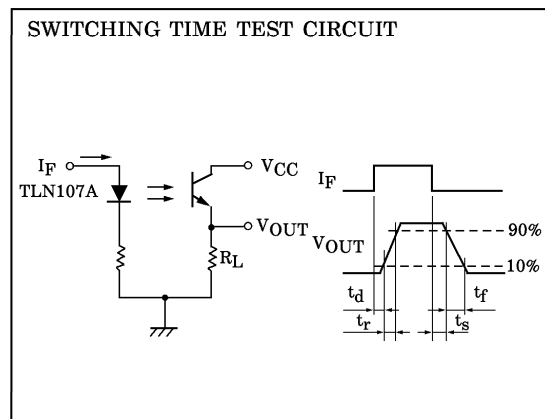
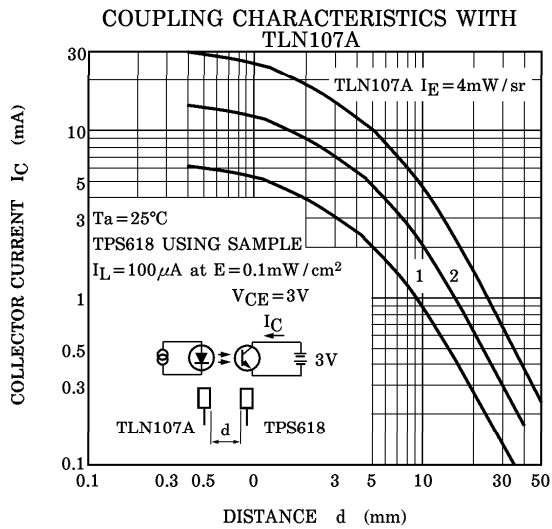
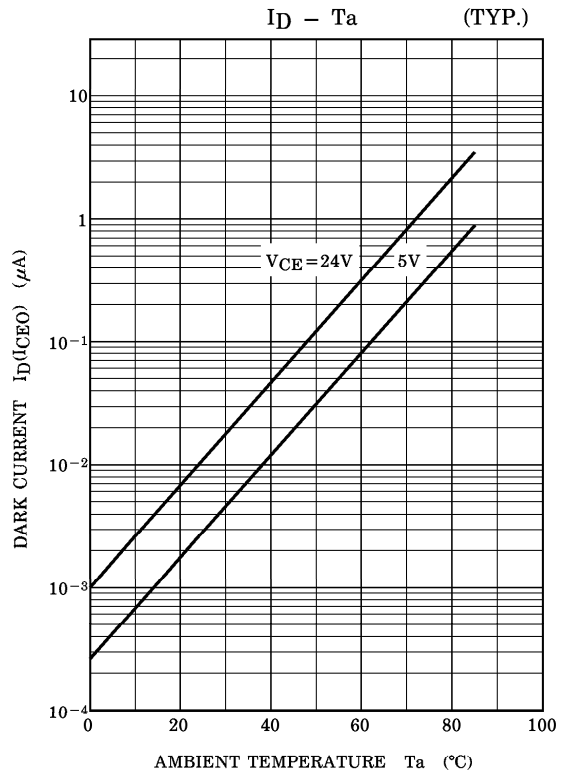
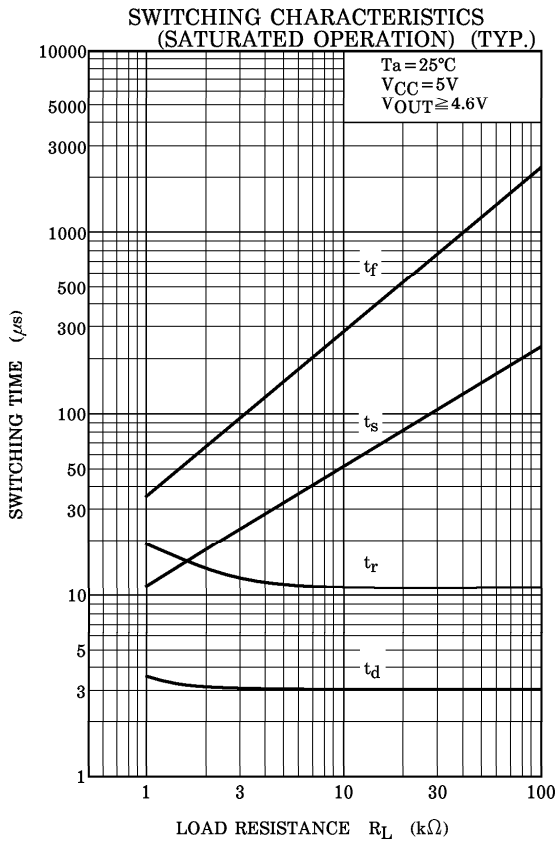
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**DIRECTIONAL SENSITIVITY CHARACTERISTIC (TYP.)**  
( $T_a = 25^\circ C$ )





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Datasheets for electronics components.