

TOSHIBA PHOTO DIODE SILICON PIN

TPS705, TPS706

SILICON PIN PHOTO DIODE FOR REMOTE CONTROL

VARIOUS KINDS OF REMOTE CONTROL SYSTEMS

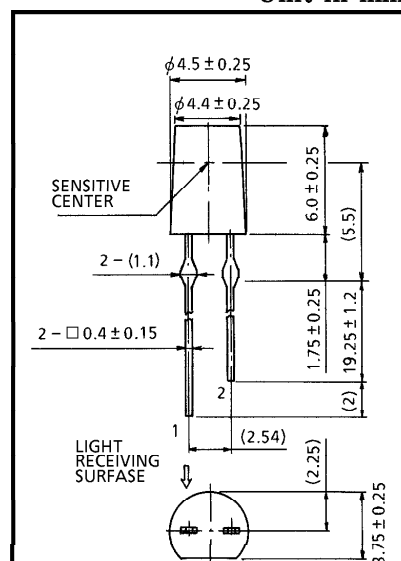
SMOKE SENSOR

- Small package makes it possible to make a set thin.
- Fluorescent lamp disturbance light cut-off resin is used.
- High sensitivity
 TPS705 : $I_{SC}=0.9\mu A$ (Typ.)
 TPS706 : $I_{SC}=1.5\mu A$ (Typ.)
- High speed response : $t_r, t_f=100ns$ (Typ.)
- Wide half value angle : $\theta \frac{1}{2} = \pm 65^\circ$ (Typ.)
- TLN105B, TLN115A, etc. are available as high radiant power infrared LEDs.

MAXIMUM RATINGS (T_a = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Reverse Voltage	V _R	20	V
Power Dissipation	P _D	150	mW
Power Dissipation Derating (T _a >25°C)	ΔP _D /°C	−2.36	mW/°C
Operating Temperature Range	T _{opr}	−30~80	°C
Storage Temperature Range	T _{stg}	−40~90	°C
Soldering Temperature · Time	T _{sol}	260°C·3s	

Unit in mm



() : REFERENCE VALUE

JEDEC	—
EIAJ	—
TOSHIBA	0-5J1

Weight : 0.23g (Typ.)

PIN CONNECTION



1. ANODE
2. CATHODE

961001EAA2

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OPTO-ELECTRICAL CHARACTERISTICS (Ta = 25°C)

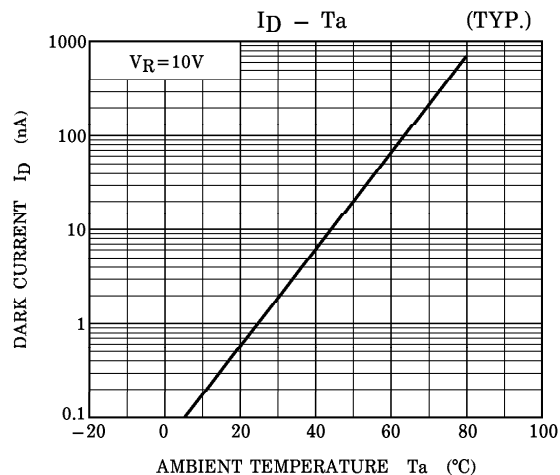
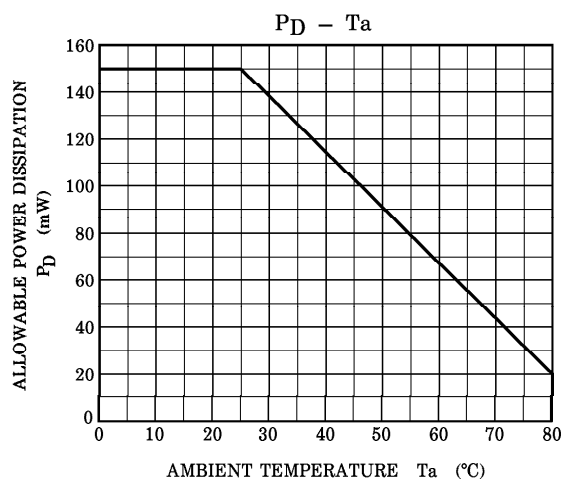
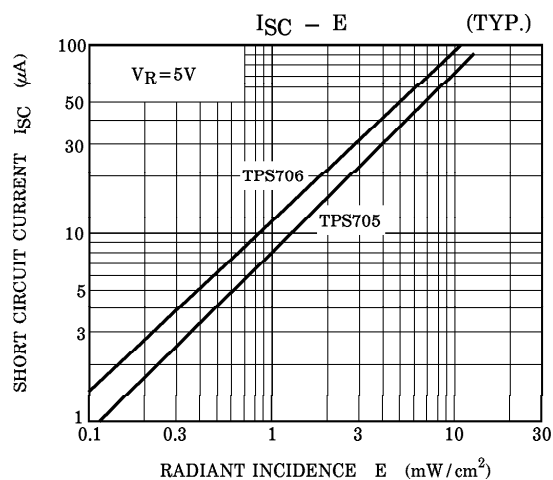
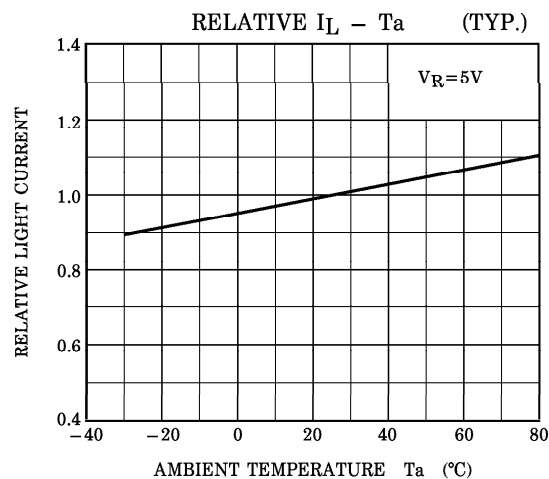
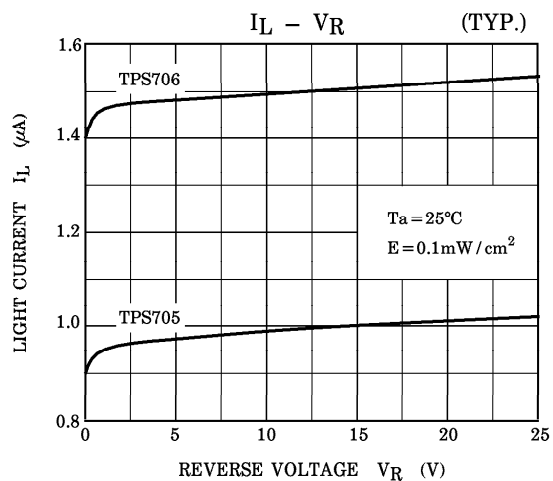
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Short Circuit Current	I _{SC}	E = 0.1mW / cm ² (Note)	TPS705	0.5	0.9	μA
			TPS706	1.0	1.5	
Dark Current	I _D	V _R = 10V, E = 0	—	1	30	nA
Open Circuit Voltage	V _{OP}	E = 0.1mW / cm ² (Note)	150	250	—	mV
Capacitance	C _T	V _R = 3V, f = 1MHz	TPS705	—	12	pF
			TPS706	—	24	
Peak Sensitivity Wavelength	λ _P	—	—	970	—	nm
Switching Time	Rise Time	V _R = 10V, R _L = 1kΩ	—	100	—	ns
	Fall Time		—	100	—	
Half Value Angle	θ _½	—	—	±65	—	°

Note : Color temperature = 2870°K, Standard Tungsten Lamp.

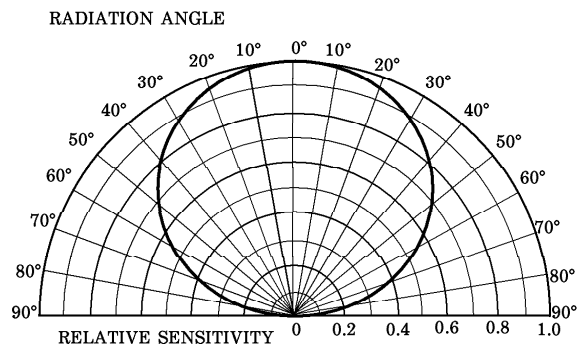
PRECAUTION

Please be careful of the followings.

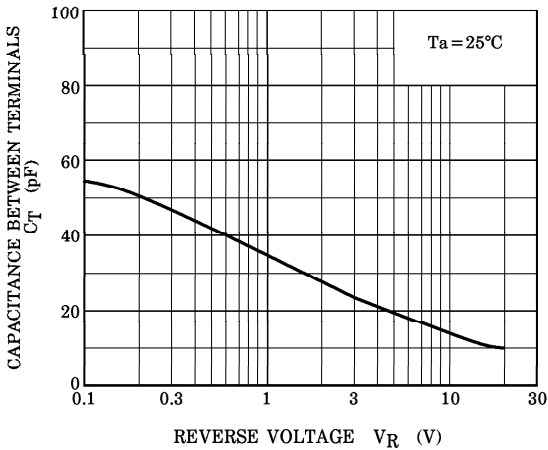
1. Soldering shall be performed at a portion of lead above 1.75mm from the body of the device.
2. If the lead is formed, the lead should be formed at a distance of 1.75mm from the body of the device.
Soldering shall be performed after lead forming.



DIRECTIONAL SENSITIVITY CHARACTERISTIC
(TYP.) ($T_a=25^{\circ}\text{C}$)



$C_T - V_R$ (TYP.)



SPECTRAL RESPONSE (TYP.)

