TOSHIBA Photo Diode Silicon PIN

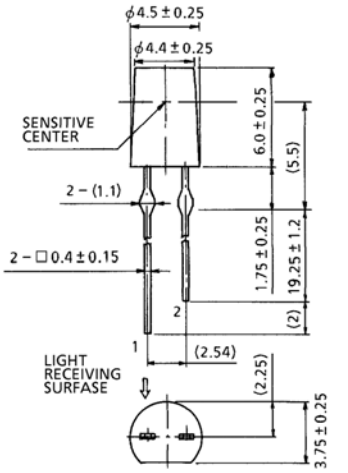
TPS705(F),TPS706(F)

Lead Free Product

Various Kinds Of Remote Control Systems

- Small package makes it possible to make a set thin.
- Fluorescent lamp disturbance light cut−off resin is used.
- High sensitivity TPS705(F) : I_{SC} = 0.9μA(typ.)
  TPS706(F) : I_{SC} = 1.5μA(typ.)
- High speed response : t_r, t_f = 100ns(typ.)
- Wide half value angle : θ1/2 = ±65°(typ.)
- TLN105B(F), TLN115A(F), etc. are available as high radiant power infrared LEDs.

Unit in mm



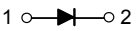
TOSHIBA 0−5J1

Weight: 0.23 g (typ.)

Maximum Ratings (Ta = 25°C)

Characteristic	Symbol	Rating	Unit
Reverse voltage	V_R	20	V
Power dissipation	P_D	150	mW
Power dissipation derating (Ta > 25°C)	ΔP_D /°C	−2.31	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	

Pin Connection



1 . Anode
2 . Cathode

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(F)	0.5	0.9	—	μA
				TPS706(F)	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(F)	—	12	—	pF
				TPS706(F)	—	24	—	
Peak sensitivity wavelength		λ_P	—		—	970	—	nm
Switching time	Rise time	t_r	V_R = 10V, R_L = 1kΩ		—	100	—	ns
	Fall time	t_f			—	100	—	
Half value Angle		$\theta\frac{1}{2}$			—	±65	—	°

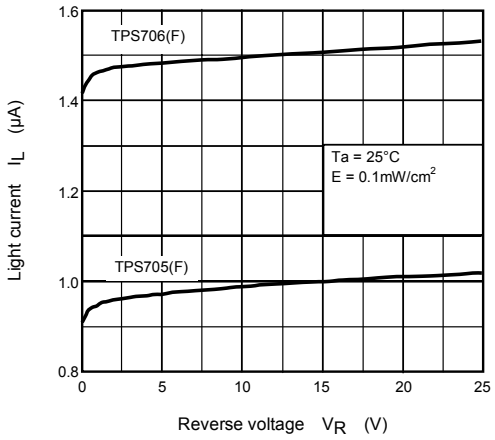
Note : Color temperature = 2870K, standard tungsten lamp.

Precaution

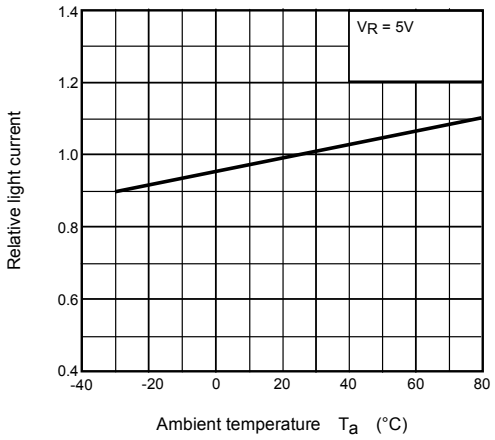
Please be careful of the followings

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.

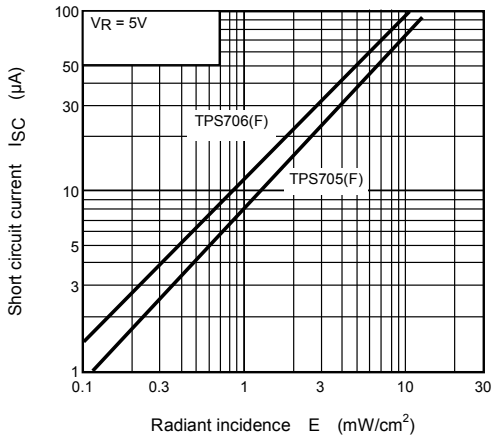
$I_L – V_R$ (typ.)



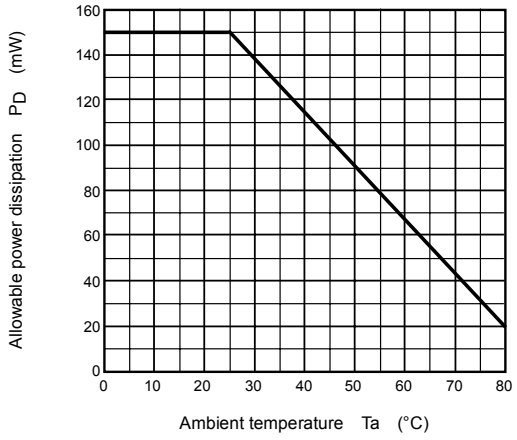
Relative I_L – Ta (typ.)



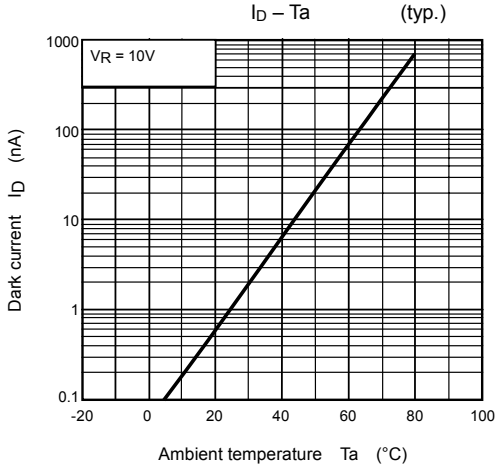
I_{SC} – E (typ.)



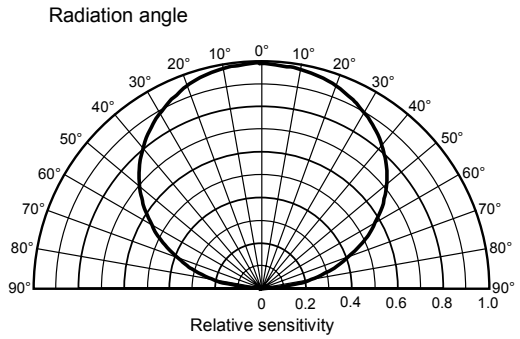
P_D – Ta



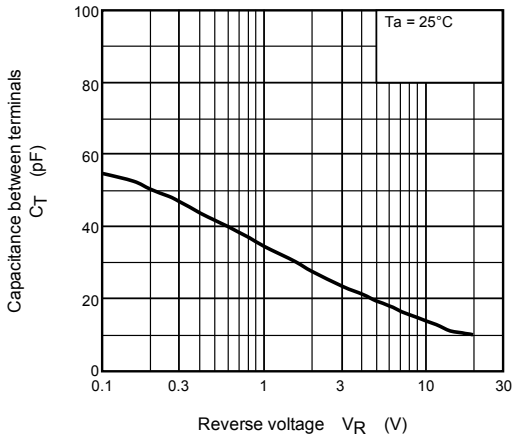
I_D – Ta (typ.)



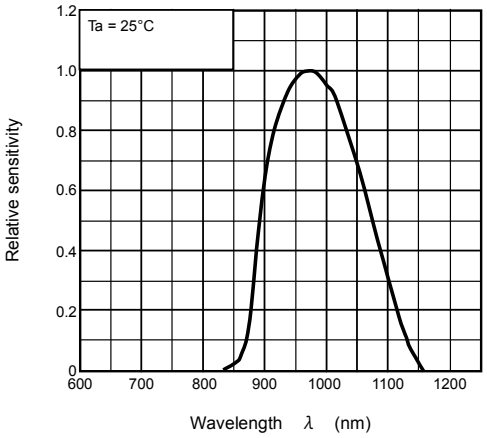
Directional Sensitivity Characteristic
(typ.) (Ta=25℃)



$C_T - V_R$ (typ.)



Spectral Response (typ.)



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