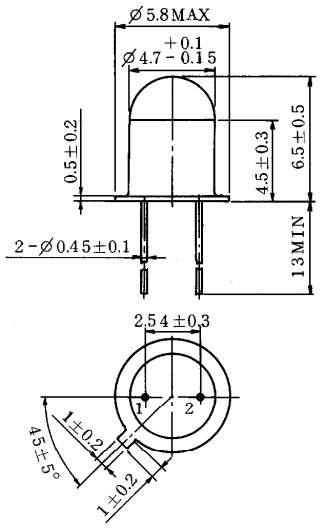
TOSHIBA PHOTO DIODE SILICON PN

TPS708

PHOTO DIODE FOR PHOTO SENSOR

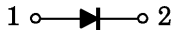
Unit in mm



JEDEC	—
EIAJ	—
TOSHIBA	0-5A1

Weight : 0.32g (TYP.)

PIN CONNECTION



1. ANODE
2. CATHODE (CASE)

OPTICAL SWITCH

SMOKE SENSOR

POSITION SENSOR

- TO-18 metal package
- High sensitivity : I_{SC} = 1.5μA (TYP.)
- Small dark current : I_D = 10pA (TYP.)
- TLN108 (λ_P = 940mm) and TLN201 (λ_P = 880mm) are available as high radiant power infrared LEDs for a light source.

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Reverse Voltage	V_R	30	V
Power Dissipation	P_D	100	mW
Operating Temperature Range	T_{opr}	−40~125	°C
Storage Temperature Range	T_{stg}	−55~150	°C
Power Dissipation Derating (Ta > 25°C)	ΔP_D / °C	−0.81	mW / °C

OPTO-ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Dark Current		I_D	V_R = 10V, E = 0	—	0.01	60	nA
Short Circuit Current		I_{SC}	E = 0.1mW / cm² (Note)	1.0	1.5	—	μA
Capacitance		C_T	V_R = 10V, f = 1MHz	—	50	—	pF
Peak Sensitivity Wavelength		λ_P	—	—	850	—	nm
Switching Time	Rise Time	t_r	V_R = 10V, R_L = 1kΩ	—	100	—	ns
	Fall Time	t_f		—	100	—	
Half Value Angle		$\theta \frac{1}{2}$	—	—	±15	—	°

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

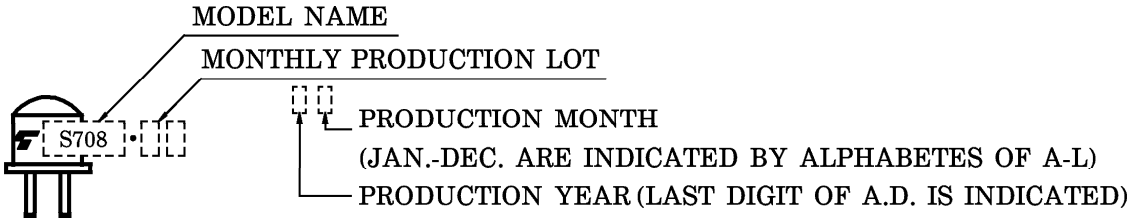
961001EAA2

PRECAUTION

Please be careful of the followings.

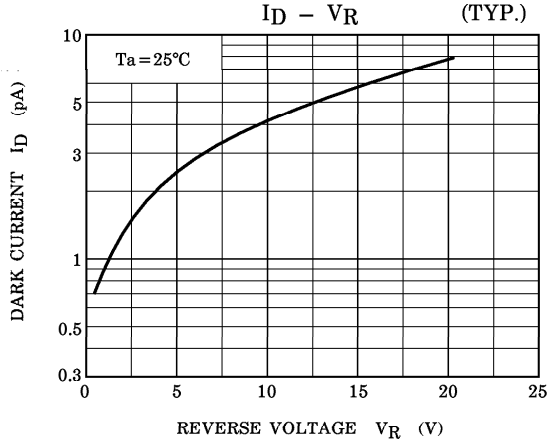
1. Soldering temperature : 260°C MAX. Soldering time : 5s MAX.
   (Soldering portion of lead : above 1.5mm from the body of the device)
2. If the lead is formed, the lead should be formed at a distance of 2mm from the body of the device. Soldering shall be performed after lead forming.

PRODUCT INDICATION

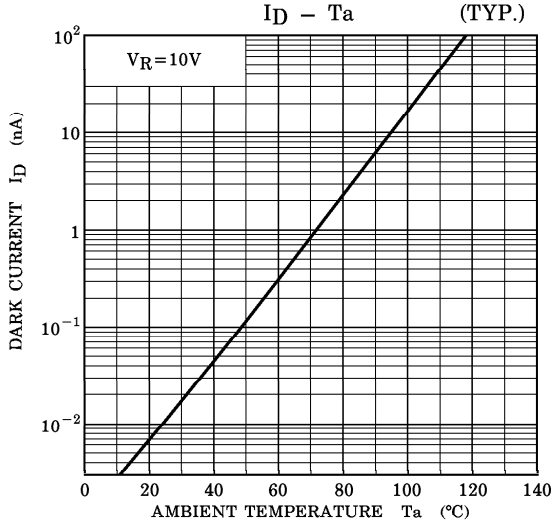


STAMP COLOR : RED

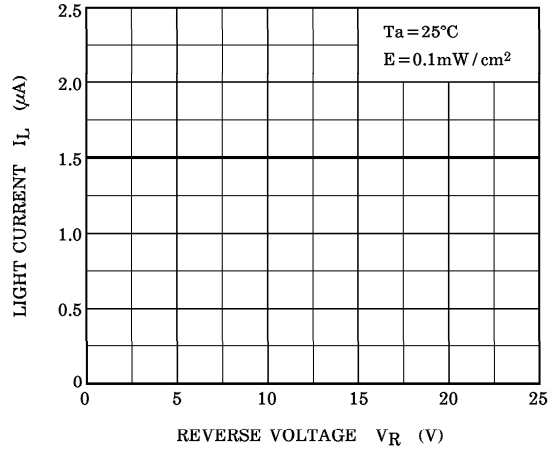
I_D – V_R (TYP.)



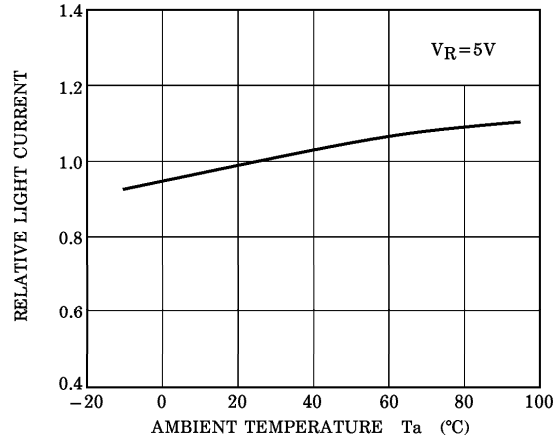
I_D – Ta (TYP.)



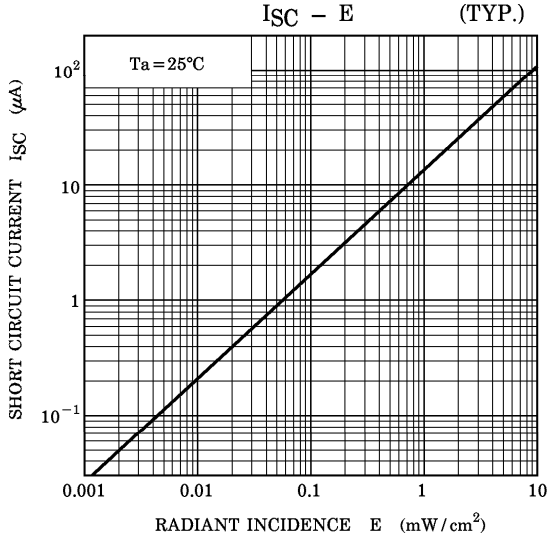
I_L – V_R (TYP.)



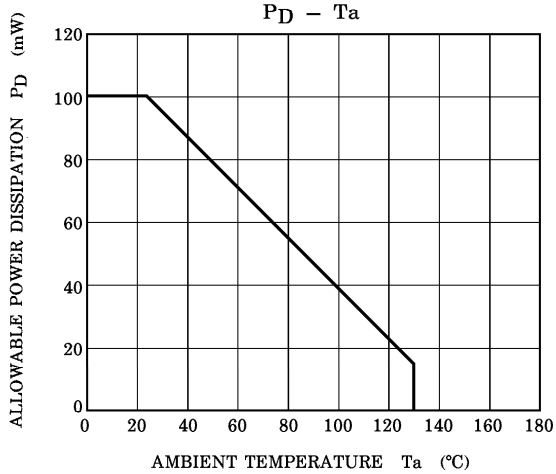
RELATIVE I_L – Ta (TYP.)



I_{SC} – E (TYP.)

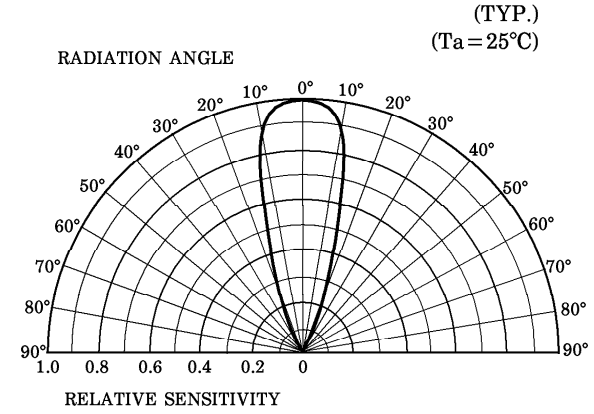


P_D – Ta

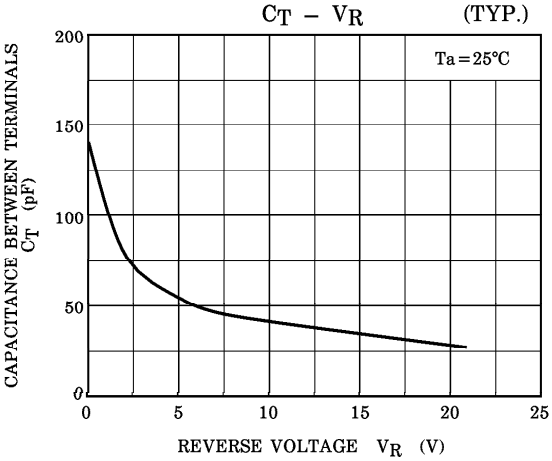


DIRECTIONAL SENSITIVITY CHARACTERISTIC (TYP.)

(Ta = 25°C)



$C_T - V_R$ (TYP.)



SPECTRAL RESPONSE (TYP.)