

TOSHIBA PHOTO DIODE SILICON PN

TPS708

PHOTO DIODE FOR PHOTO SENSOR

Unit in mm

OPTICAL SWITCH

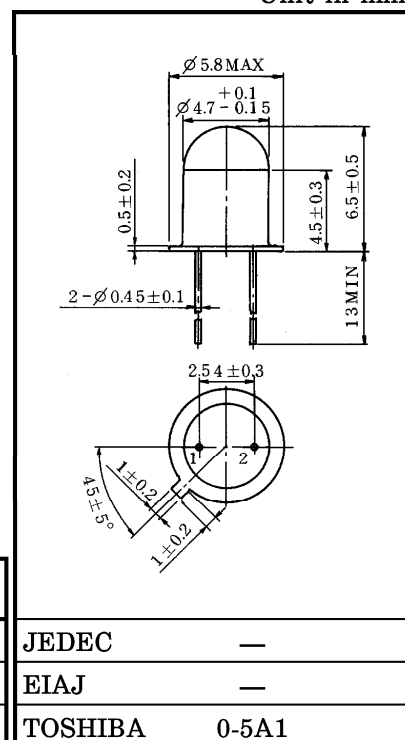
SMOKE SENSOR

POSITION SENSOR

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

MAXIMUM RATINGS (T_a = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Reverse Voltage	V_R	30	V
Power Dissipation	P_D	100	mW
Operating Temperature Range	T_{opr}	$-40\sim 125$	$^{\circ}C$
Storage Temperature Range	T_{stg}	$-55\sim 150$	$^{\circ}C$
Power Dissipation Derating ($T_a > 25^{\circ}C$)	$\Delta P_D / ^{\circ}C$	-0.81	mW / $^{\circ}C$



Weight : 0.32g (TYP.)

PIN CONNECTION



1. ANODE
2. CATHODE (CASE)

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}	$E=0.1mW/cm^2$ (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	$V_R=10V, R_L=1k\Omega$	—	100	—	ns
	Fall Time	t_f		—	100	—	
Half Value Angle		$\theta_{\frac{1}{2}}$	—	—	± 15	—	°

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

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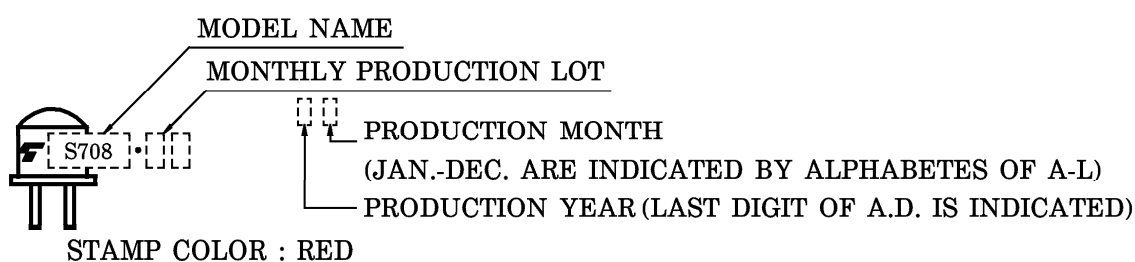
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PRECAUTION

Please be careful of the followings.

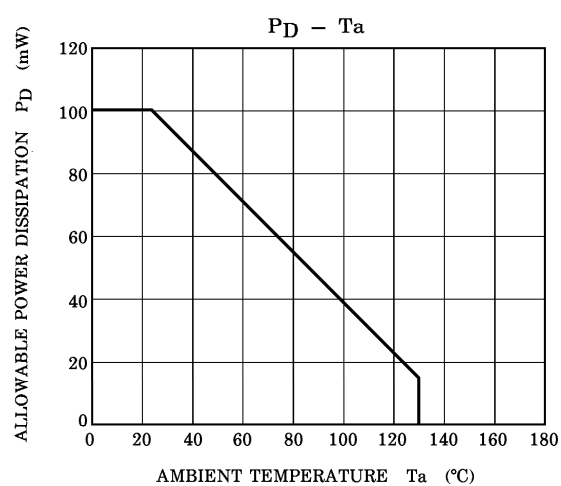
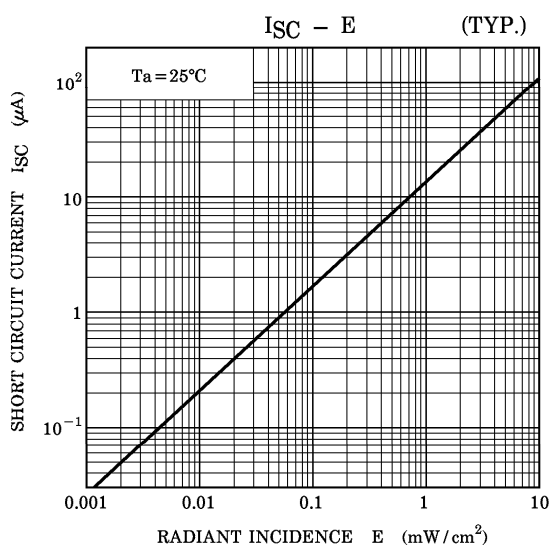
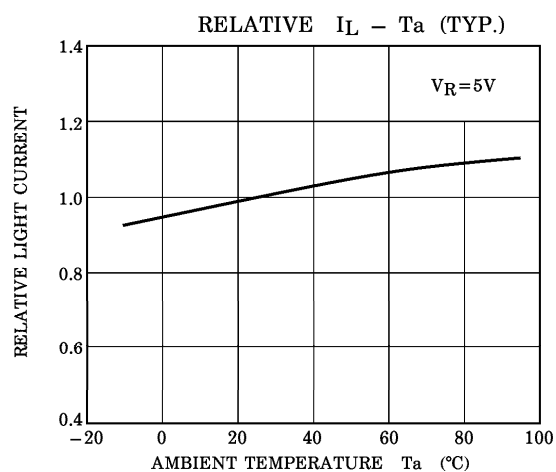
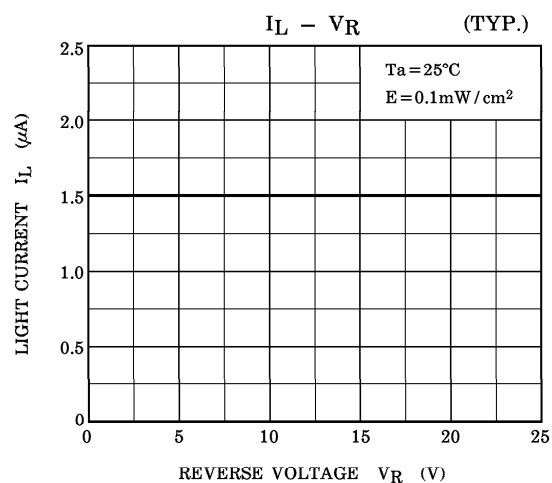
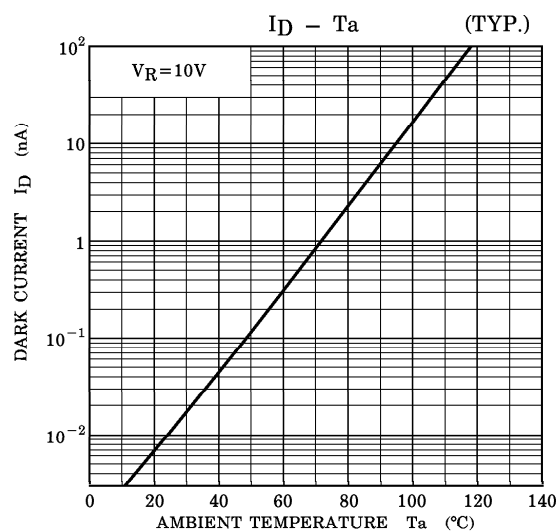
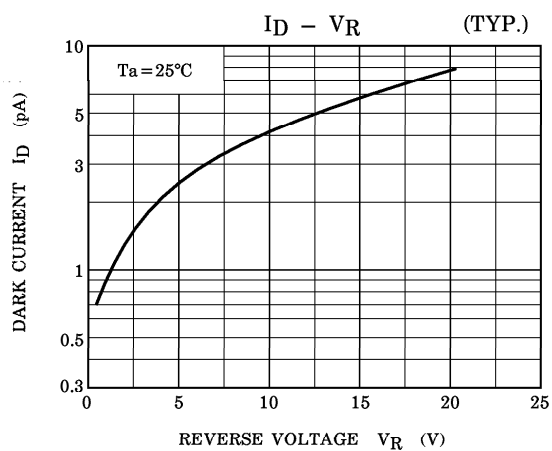
1. Soldering temperature : 260°C MAX. Soldering time : 5s MAX.
(Soldering portion of lead : above 1.5mm from the body of the device)
2. If the lead is formed, the lead should be formed at a distance of 2mm from the body of the device.
Soldering shall be performed after lead forming.

PRODUCT INDICATION



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

