

TOSHIBA PHOTO DARLINGTON TRANSISTOR SILICON NPN EPITAXIAL PLANAR

# TPS625, TPS626

OPTO-ELECTRONIC SWITCH  
HOME ELECTRIC EQUIPMENT  
OA EQUIPMENT

- Small side view epoxy resin package
- High sensitivity : TPS625 ...  $I_L = 0.6\text{mA}$  (MIN.)  
TPS626 ...  $I_L = 0.4\text{mA}$  (MIN.)
- Half value angle :  $\theta_{\frac{1}{2}} = \pm 15^\circ$  (TYP.)
- Visible light cut type (black package) : TPS626
- Optimum in combination with infrared LED TLN117 which has identical external dimensions.

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Emitter Voltage	$V_{CEO}$	30	V
Emitter-Collector Voltage	$V_{ECO}$	5	V
Collector Current	$I_C$	40	mA
Collector Power Dissipation	$P_C$	75	mW
Collector Power Dissipation Derating ( $T_a > 25^{\circ}\text{C}$ )	$\Delta P_C / ^{\circ}\text{C}$	-1	mW / $^{\circ}\text{C}$
Operating Temperature Range	$T_{opr}$	-25~85	$^{\circ}\text{C}$
Storage Temperature Range	$T_{stg}$	-40~100	$^{\circ}\text{C}$
Soldering Temperature (5s)	$T_{sol}$	260 (Note 1)	$^{\circ}\text{C}$

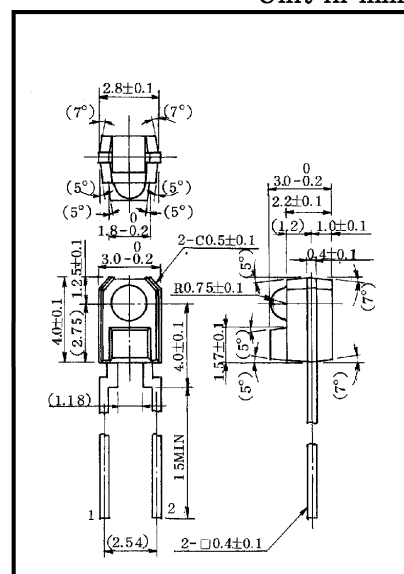
Note 1 : Soldering portion of lead : above 2mm from the body of the device.

### OPTO-ELECTRICAL CHARACTERISTICS (T<sub>a</sub> = 25°)

CHARACTERISTIC		SYMBOL	TEST CONDITION		MIN.	TYP.	MAX.	UNIT
Dark Current		$I_D (I_{CEO})$	$V_{CE} = 16V, E = 0$		—	0.03	0.25	$\mu A$
Light Current		$I_L$	$E = 0.1mW / cm^2$	TPS625	0.6	2	—	mA
			$V_{CE} = 3V$ (Note 2, 3)	TPS626	0.4	1.4	—	
Collector-Emitter Saturation Voltage		$V_{CE} (sat)$	$E = 0.1mW / cm^2$ $I_L =$ (Note 4)		—	0.9	1.2	V
Peak Sensitivity Wavelength		$\lambda_p$		TPS625	—	820	—	nm
				TPS626	—	870	—	
Half Value Angle		$\theta_{\frac{1}{2}}$			—	$\pm 15$	—	°
Switching Time	Rise Time	$t_r$	$V_{CC} = 5V, I_C = 10mA$ $R_L = 100\Omega$		—	200	—	$\mu s$
	Fall Time	$t_f$			—	150	—	

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

Unit in mm



( ): REFERENCE VALUE

JEDEC	—
EIAJ	—
TOSHIBA	

Weight : 0.1g (TYP.)

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Note 3.  $I_L$  Classification

RANK	$I_L$ (mA)	
	TPS625	TPS626
(A)	0.6~3.6	0.4~2.4
(B)	2.5~15	1.7~10.2
(C)	5MIN.	3MIN.
—	0.6MIN.	0.4MIN.

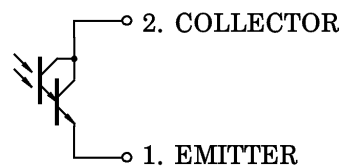
Note 4. TPS625 : 0.3mA, TPS626 : 0.2mA

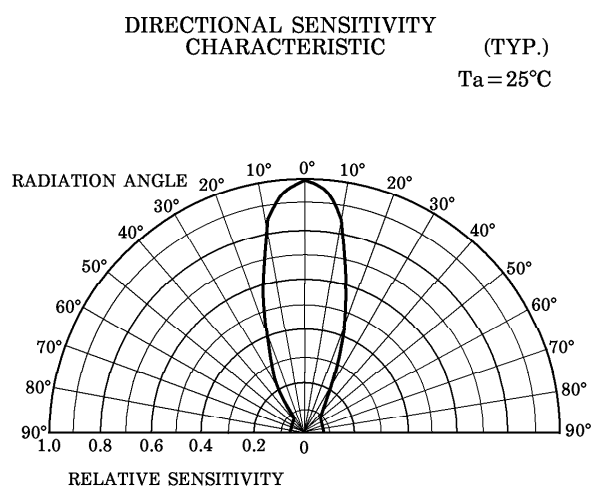
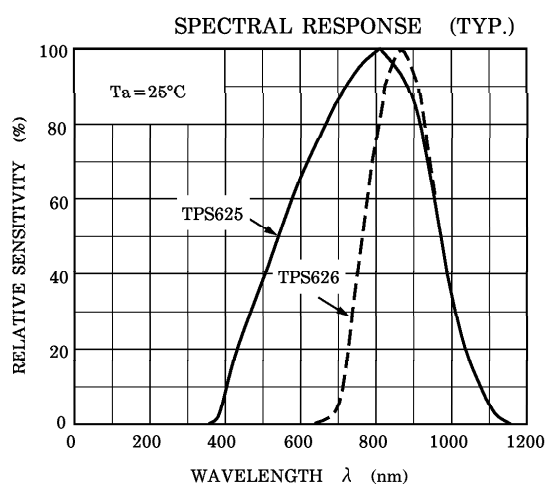
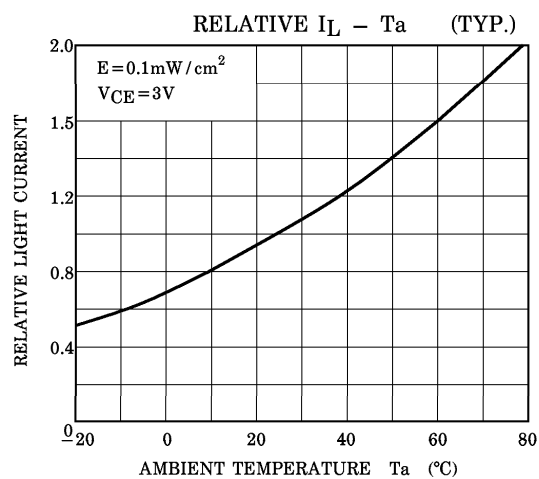
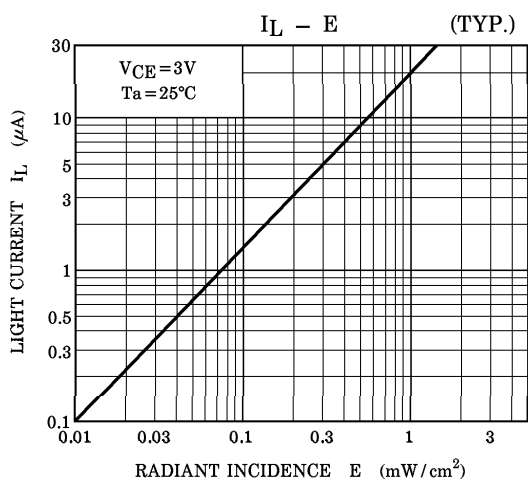
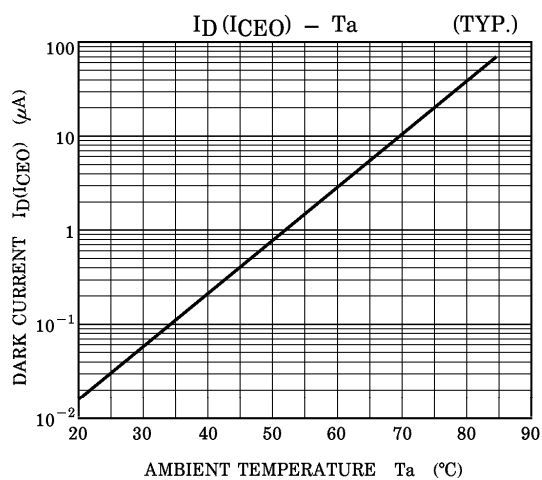
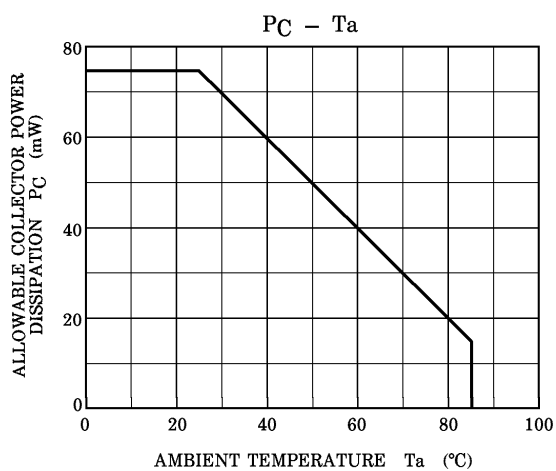
## PRECAUTION

Please be careful of the followings.

1. When the lead is formed, the lead shall be formed at a distance of 2mm from the body without leaving forming stress to the body of the device.  
Soldering shall be performed after lead forming.

## PIN CONNECTION





SWITCHING TIME TEST CIRCUIT

