

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}	$-25 \sim 85$	$^{\circ}\text{C}$
Storage Temperature Range	T_{stg}	$-40 \sim 100$	$^{\circ}\text{C}$
Soldering Temperature (5s)	T_{sol}	260 (Note 1)	$^{\circ}\text{C}$

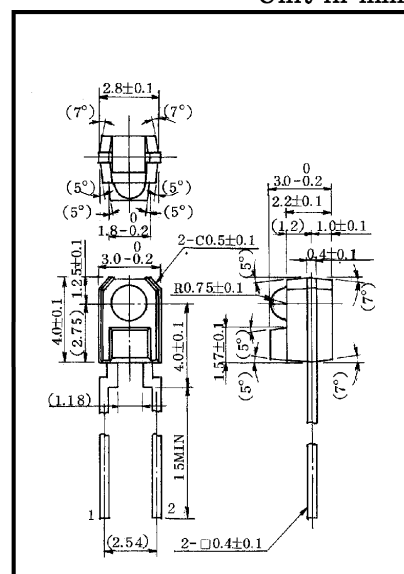
Note 1 : Soldering portion of lead : above 2mm from the body of the device.

OPTO-ELECTRICAL CHARACTERISTICS (T_a = 25°)

CHARACTERISTIC		SYMBOL	TEST CONDITION		MIN.	TYP.	MAX.	UNIT
Dark Current		$I_D (I_{CEO})$	$V_{CE} = 16V, E = 0$		—	0.03	0.25	μA
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		λ_p		TPS625	—	820	—	nm
				TPS626	—	870	—	
Half Value Angle		$\theta_{\frac{1}{2}}$			—	± 15	—	°
Switching Time	Rise Time	t_r	$V_{CC} = 5V, I_C = 10mA$ $R_L = 100\Omega$		—	200	—	μs
	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.

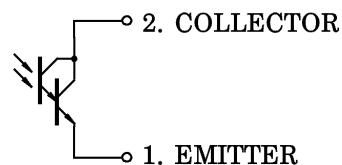
Note 4. TPS625 : 0.3mA, TPS626 : 0.2mA

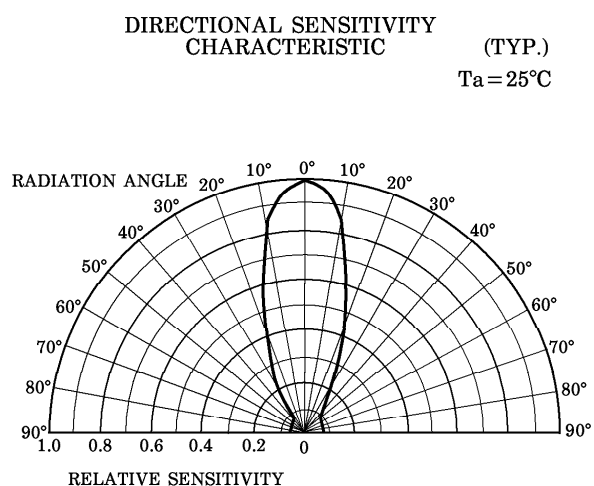
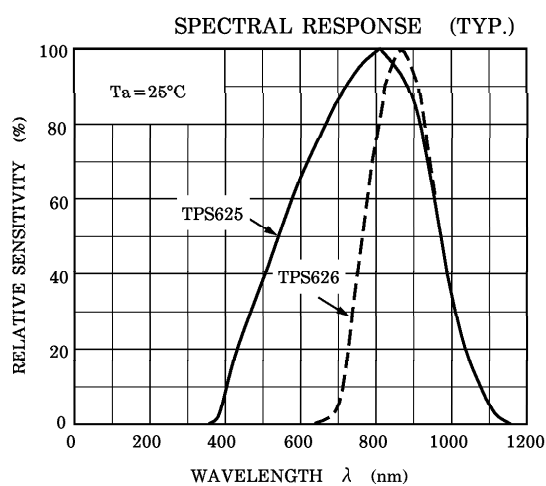
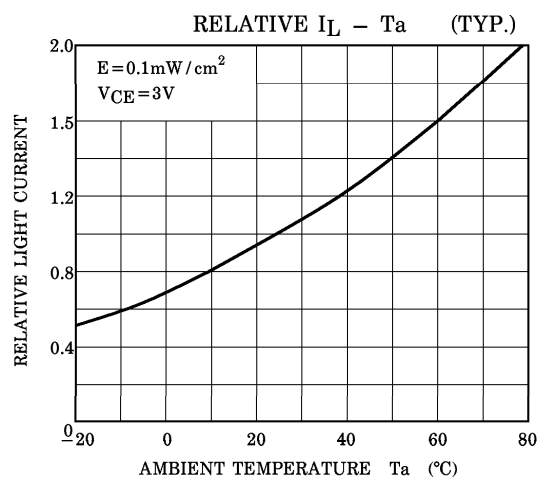
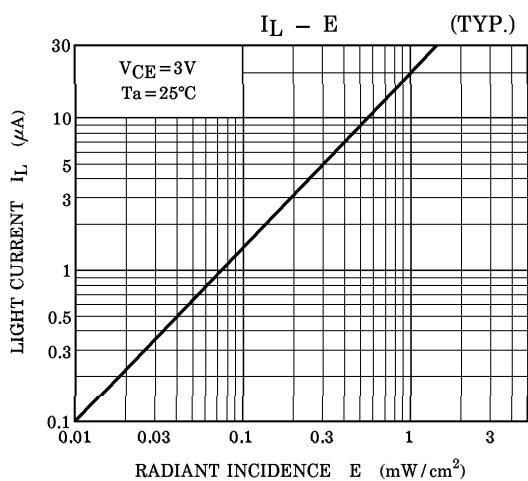
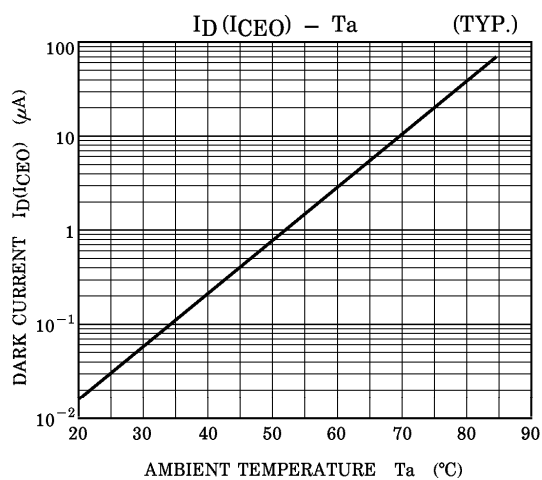
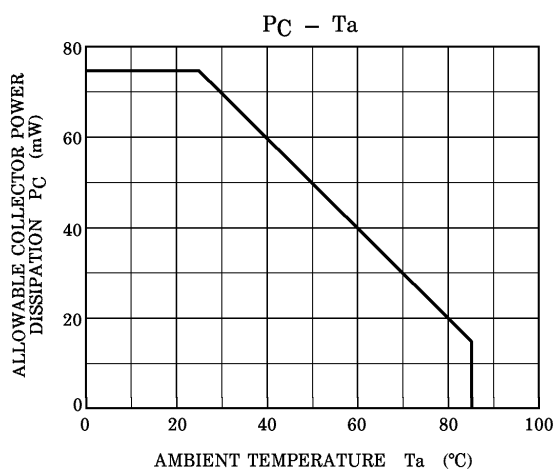
PRECAUTION

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

