

TOSHIBA PHOTO TRANSISTOR SILICON NPN EPITAXIAL PLANAR

TPS621, TPS622

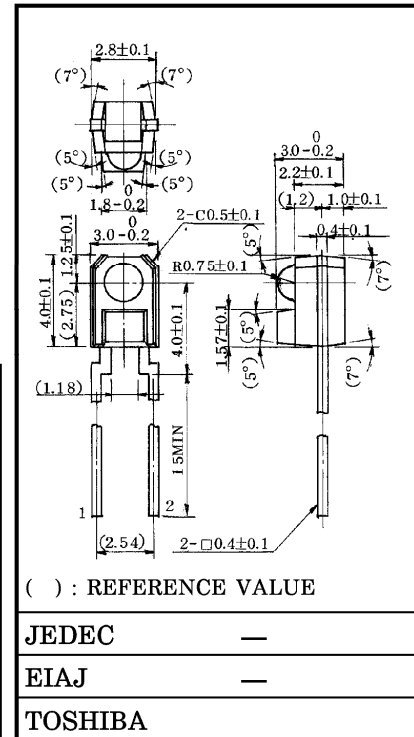
OPTO-ELECTRONIC SWITCH
 FLOPPY DISK DRIVE
 OPTICAL MOUSE
 OPTICAL TOUCH SWITCH

UNIT IN : mm

- Small side view epoxy resin package
- Fast response speed : $t_r, t_f = 6\mu s$ (TYP.)
- Half value angle : $\theta_{\frac{1}{2}} = \pm 15^\circ$ (TYP.)
- Visible light cut type (black package) : TPS622
- Optimum in combination with infrared LED TLN117 which has identical external dimensions.

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Emitter Voltage	V_{CEO}	30	V
Emitter-Collector Voltage	V_{ECO}	5	V
Collector Current	I_C	50	mA
Collector Power Dissipation	P_C	75	mW
Collector Power Dissipation Derating (Ta > 25°C)	$\Delta P_C / ^\circ C$	-1	mW / °C
Operating Temperature Range	T_{opr}	-25~85	°C
Storage Temperature Range	T_{stg}	-40~100	°C
Soldering Temperature (5s)	T_{sol}	260 (Note 1)	°C



Weight : 0.1g (TYP.)

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

OPTO-ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT	
Dark Current	$I_D (I_{CEO})$	$V_{CE} = 24V, E = 0$	—	0.005	0.1	μA	
Light Current	I_L	$E = 0.1mW / cm^2, V_{CE} = 3V$ (Note 2, 3)	TPS621	40	100	—	μA
			TPS622	27	70	—	
Collector-Emitter Saturation Voltage	$V_{CE} (sat)$	$E = 0.1mW / cm^2, I_C =$ (Note 4)	—	0.15	0.4	V	
Peak Sensitivity Wavelength	λ_p	—	TPS621	—	820	—	nm
			TPS622	—	870	—	
Half Value Angle	$\theta_{\frac{1}{2}}$	—	—	± 15	—	°	
Switching Time	Rise Time	$V_{CC} = 5V, I_C = 2mA, R_L = 100\Omega$	—	6	—	μs	
	Fall Time		—	6	—		

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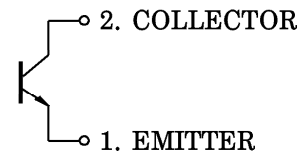
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- Note 2. Color temperature = 2870°K Standard Tungsten Lamp
 3. I_L Classification

RANK	I_L (μA)	
	TPS621	TPS622
(A)	40~120	27~80
(B)	80~240	55~165
—	40MIN.	27MIN.

4. TPS621 : 15 μA , TPS622 : 10 μA

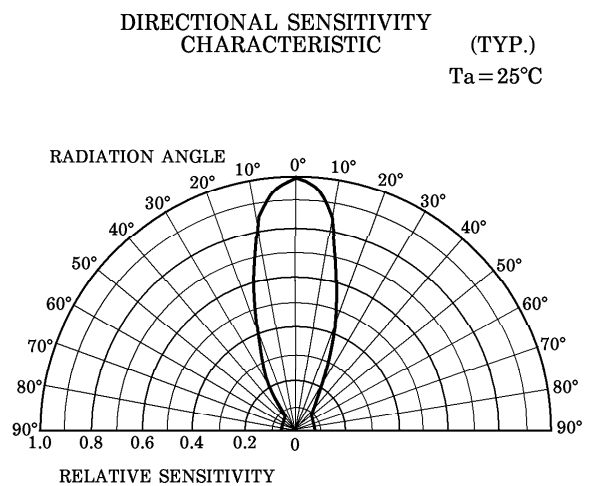
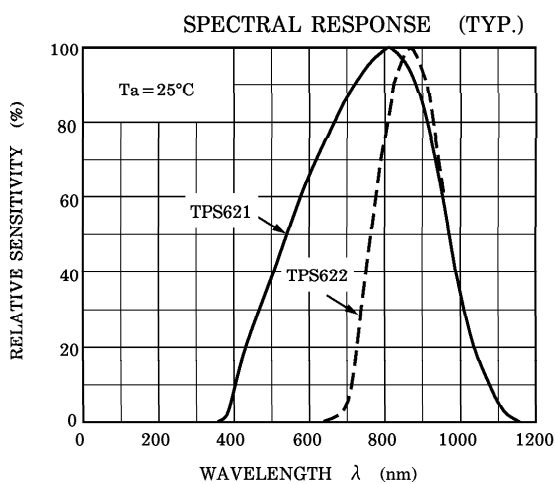
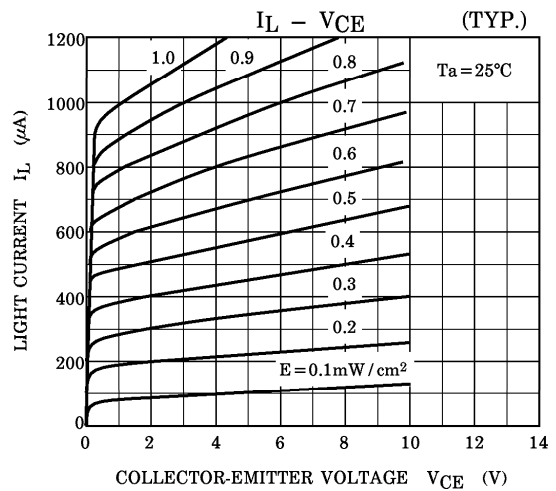
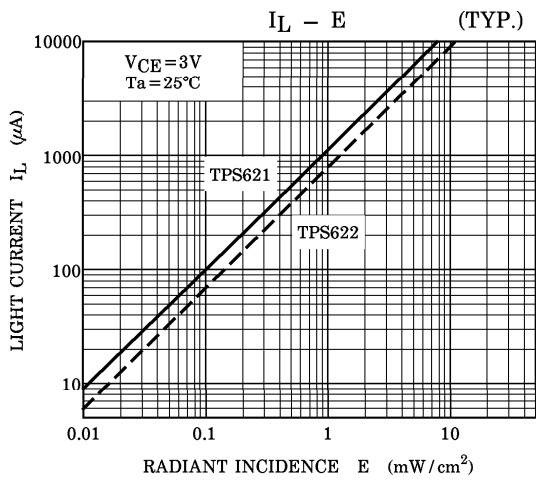
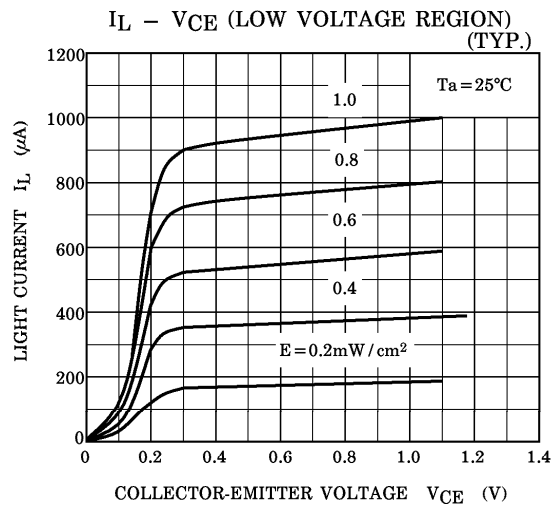
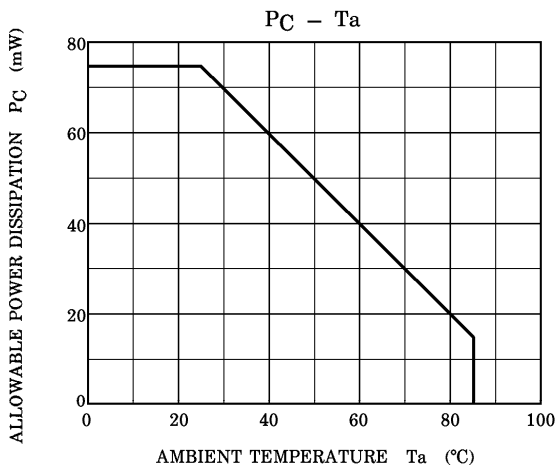
PIN CONNECTION

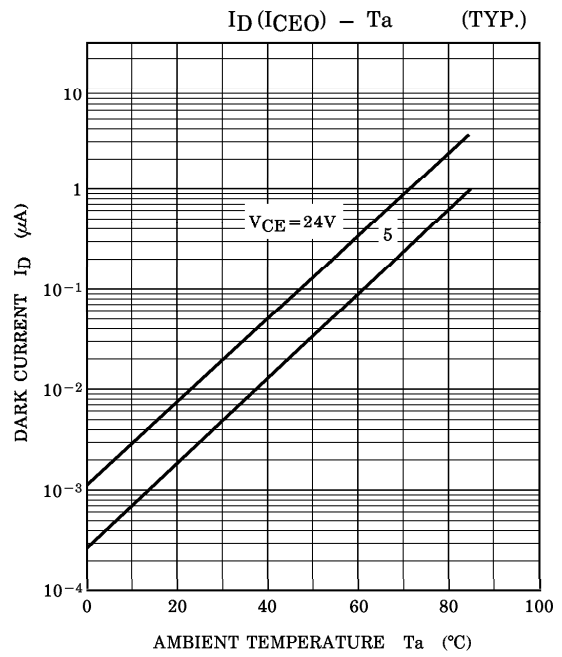
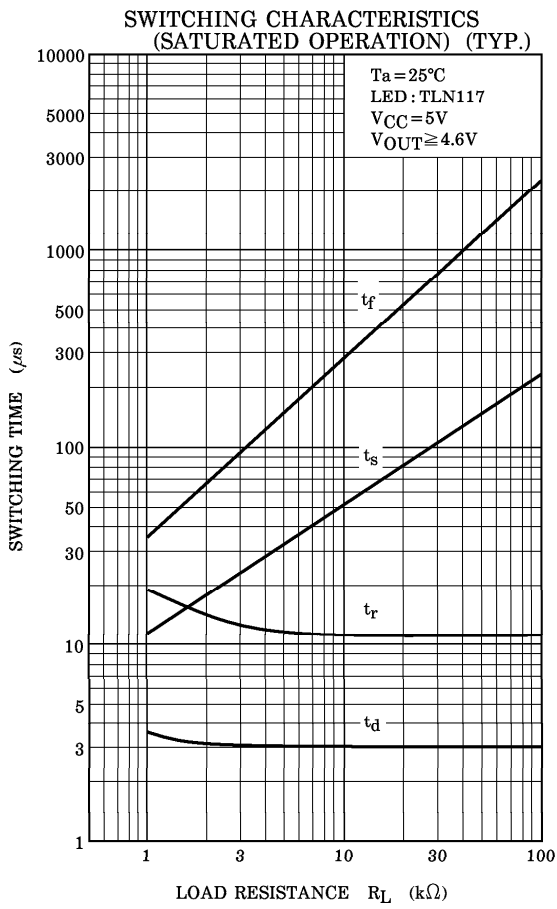


PRECAUTION

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.





SWITCHING TIME TEST CIRCUIT

