

TOSHIBA PHOTOINTERRUPTER INFRARED LED + PHOTOTRANSISTOR

TLP 818

BURNER MOTOR ROTATING DETECTOR FOR THE OIL FAN HEATER

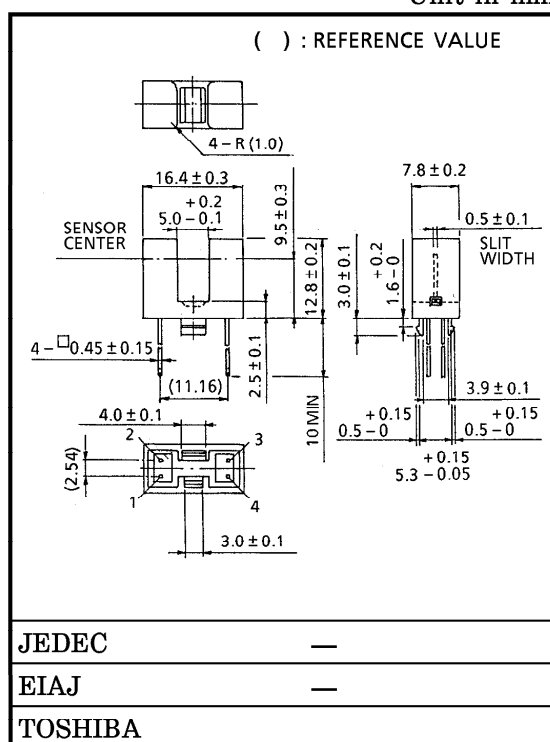
COIN PASSING DETECTOR FOR THE VENDING MACHINE

PAPER PASSING DETECTOR FOR THE TICKET VENDING MACHINE

PAPER DETECTOR FOR THE PRINTER AND FACSIMILE

The TLP818 is a photointerrupter with a dustproof cover. It is not greatly influenced by dust because there is no powdered dust accumulation at the detecting slit part.

- Built-in dustproof cover
- Snap-in mounting type (1.6mm thickness of PCB)
- Gap : 5mm
- Resolution : Slit width 0.5mm
- High current transfer ratio : $I_C / I_F = 2.5\%$ (Min.)
- Fast response speed : $t_r, t_f = 6\mu s$ (Typ.)
- It is not greatly influenced by disturbance beams of indoor lighting because detector has visible light cut resin.
- Material of the package : Polycarbonate

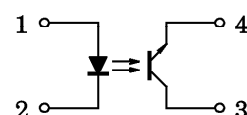


Weight : 1.29g (Typ.)

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
LED	Forward Current	I_F	50	mA
	Forward Current Derating ($T_a > 25^{\circ}\text{C}$)	$\Delta I_F / ^{\circ}\text{C}$	-0.33	mA / $^{\circ}\text{C}$
	Reverse Voltage	V_R	5	V
DETECTOR	Collector-Emitter Voltage	V_{CEO}	35	V
	Emitter Collector Voltage	V_{ECO}	5	V
	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 / $^{\circ}\text{C}$
	Collector Current	I_C	50	mA
	Operating Temperature Range	T_{opr}	-25~85	$^{\circ}\text{C}$
	Storage Temperature	T_{stg}	-40~100	$^{\circ}\text{C}$

PIN CONNECTION



1. ANODE
2. CATHODE
3. COLLECTOR
4. EMITTER

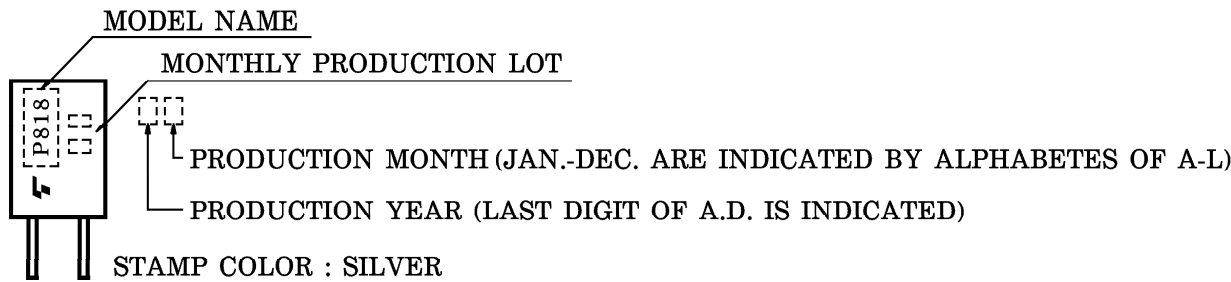
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OPTO-ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
LED	Forward Voltage	V_F	$I_F = 10\text{mA}$	1.00	1.15	1.30	V
	Reverse Current	I_R	$V_R = 5\text{V}$	—	—	10	μA
	Peak Light Emitting Wavelength	λ_P	$I_F = 10\text{mA}$	—	940	—	nm
DETECTOR	Dark Current	$I_D (I_{CEO})$	$V_{CE} = 24\text{V}, I_F = 0$	—	—	0.1	μA
	Peak Sensitivity Wavelength	λ_P	—	—	870	—	nm
COUPLED	Current Transfer Ratio	I_C / I_F	$V_{CE} = 5\text{V}, I_F = 20\text{mA}$	2.5	—	32	%
	Reakage Current	I_{LEAK}	$V_{CE} = 5\text{V}, I_F = 50\text{mA}$ Shutter in	—	—	10	μA
	Collector-Emitter Saturation Voltage	$V_{CE (sat)}$	$I_F = 20\text{mA}, I_C = 0.25\text{mA}$	—	0.15	0.4	V
	Rise Time	t_r	$V_{CC} = 5\text{V}, I_C = 2\text{mA}$ $R_L = 100\Omega$	—	6	—	μs
	Fall Time	t_f		—	6	—	μs

PRODUCT INDICATION



PRECAUTION

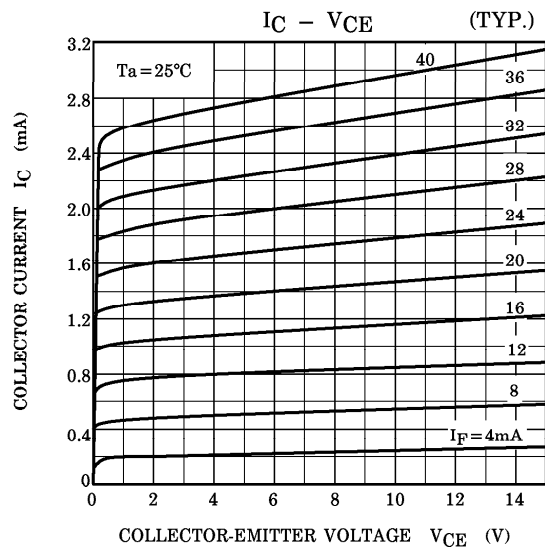
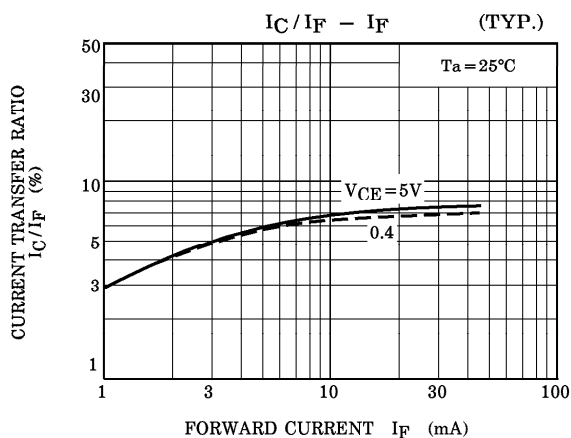
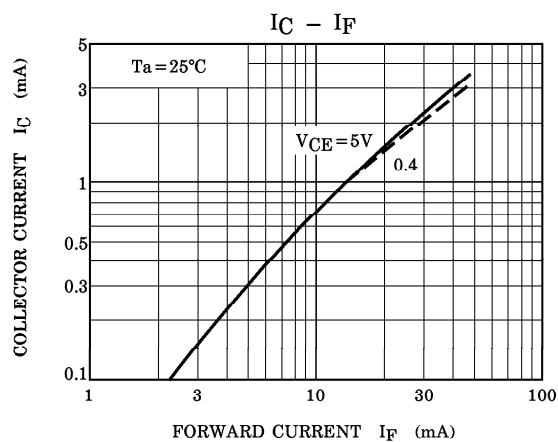
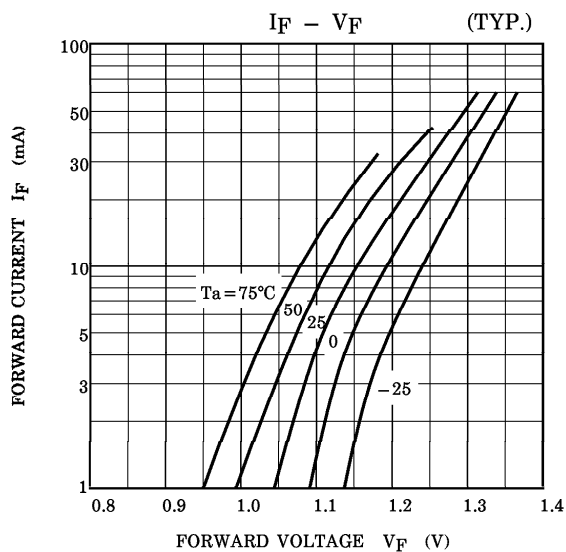
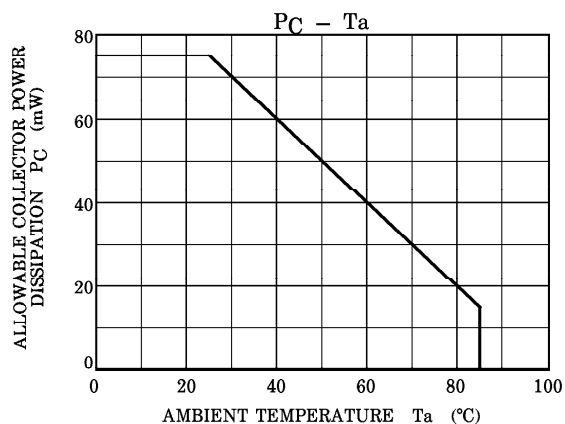
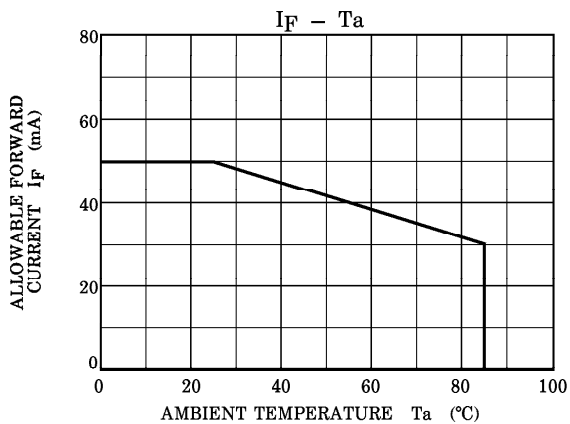
Please be careful of the followings.

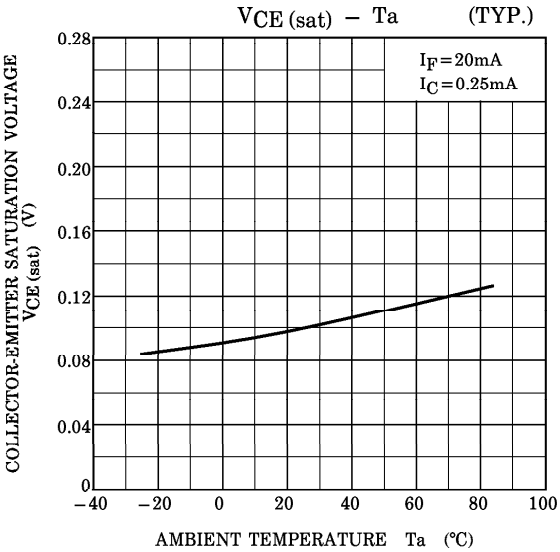
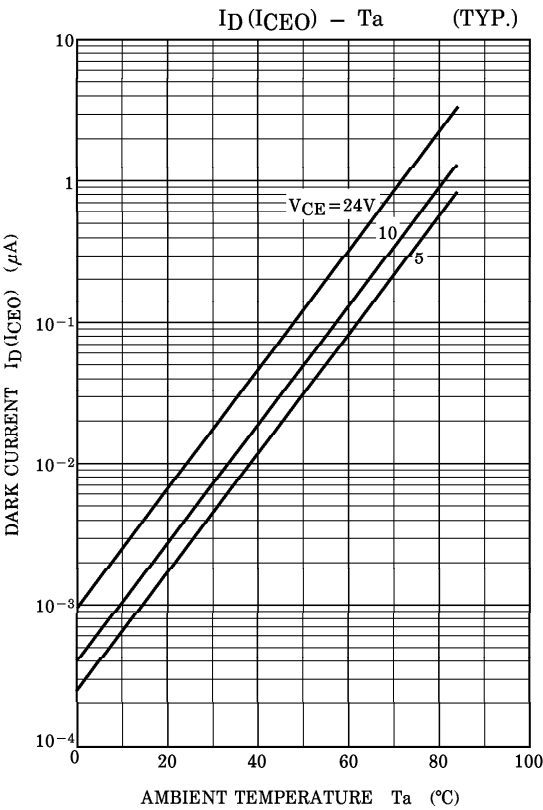
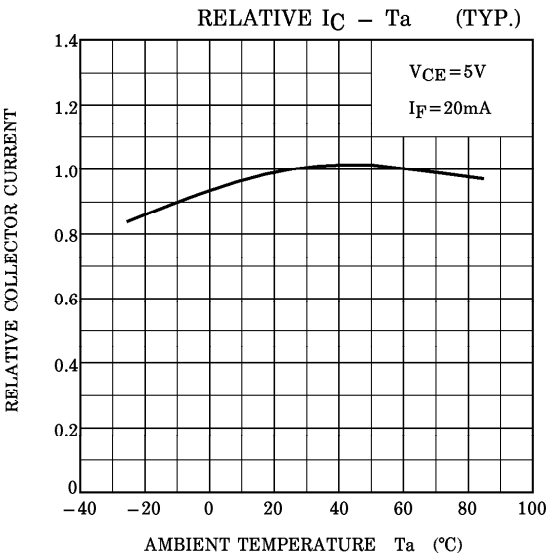
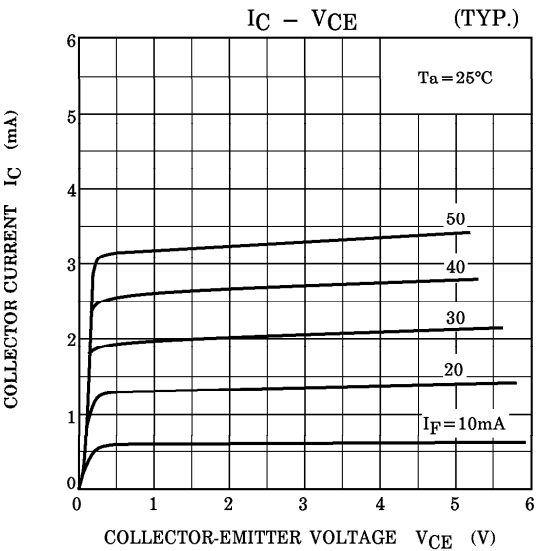
1. Soldering temperature : 260°C MAX. Soldering time : 5s MAX.
(Soldering portion of lead : above 1.5mm from the body of the device)
2. Be careful that no solder is attached to the case body.
3. If the chemical are used for cleaning, the soldered surface only shall be cleaned with chemicals avoiding the whole cleaning of the package.
4. The container is made of polycarbonate. Polycarbonate is usually stable with acid, alcohol, and aliphatic hydrocarbons however, with peroxochemicals (such as benzene, toluene, and acetone), alkali, aromatic hydrocarbons, or chloric hydrocarbons, polycarbonate becomes cracked, swollen, or melted. Please take care when choosing a packaging material by referencing the table below.

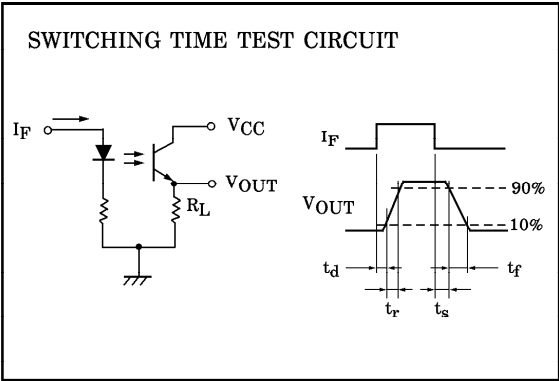
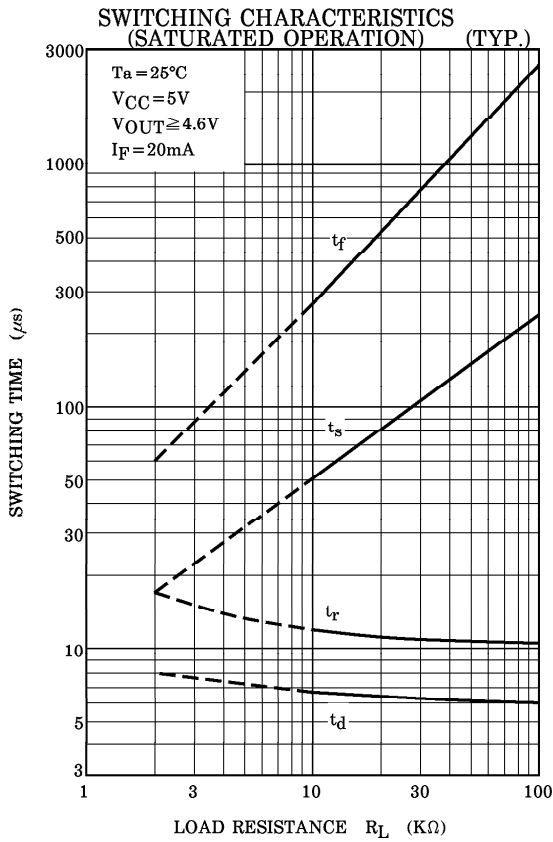
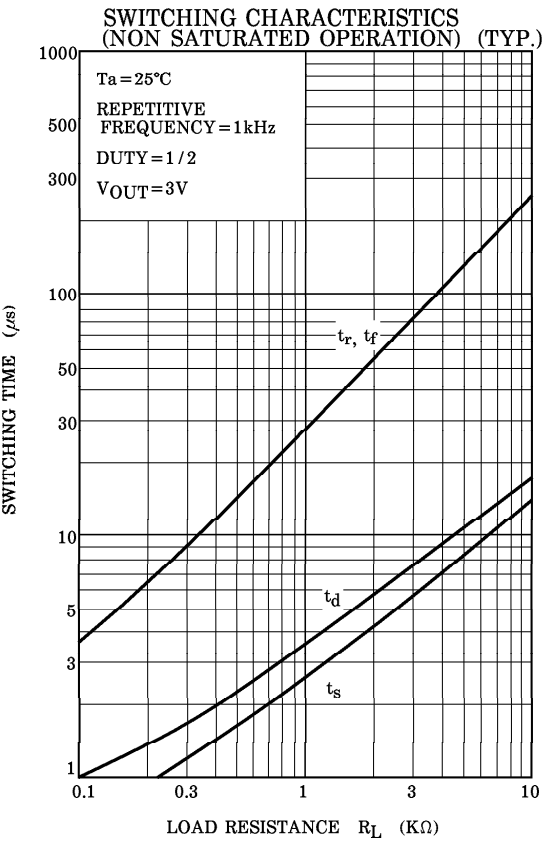
<Chemicals to avoid with polycarbonate>

	PHENOMENON	CHEMICALS
A	Little deterioration but staining	• nitric acid (low concentration), hydrogen peroxide, chlorine
B	Cracked, crazed, or swollen	• acetic acid (70% or more) • gasoline • methyl ethyl ketone, ethyl acetate, butyl acetate • ethyl methacrylate, ethyl ether, MEK • acetone, m-amino alcohol, carbon tetrachloride • carbon disulfide, trichloroethylene, cresol • thinners, oil of turpentine • triethanolamine, TCP, TBP
C	Melted { } : Used as solvent.	• concentrated sulfuric acid • benzene • styrene, acrylonitrile, vinyl acetate • ethylenediamine, diethylenediamine • {chloroform, methyl chloride, tetrachloromethane, dioxane, 1, 2-dichloroethane}
D	Decomposed	• ammonia water • other alkali

5. TLP818 shall be mounted on an unwarped surface.
6. This product contains dustproof cover at detecting slit part but does not contain at back surface.

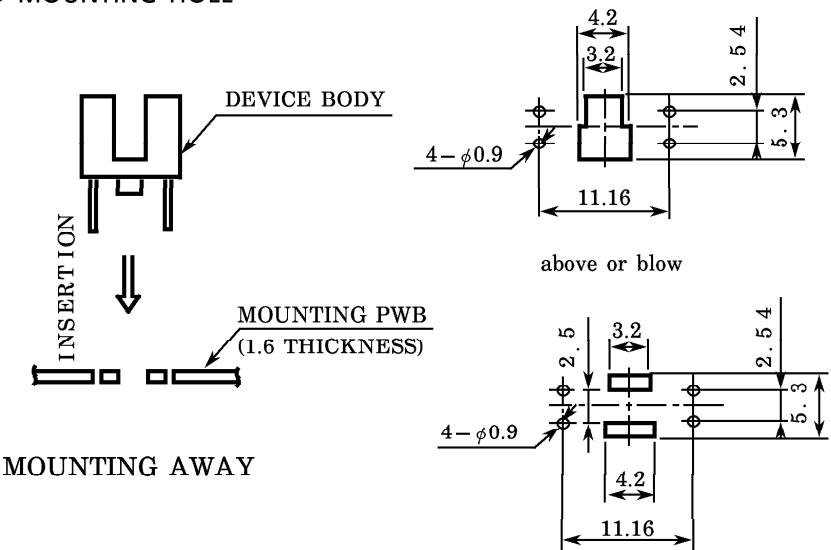






RECOMMENDED MOUNTING HOLE

Unit in mm



RECOMMENDED MOUNTING HOLE

POSITIONING OF SHUTTER AND DEVICE

To operate correctly, make sure that the shutter and the device are positioned as shown in the figure below.

The slit pitch of the shutter must be set wider than the slit width of the device. Determine the width taking the switching time into consideration.

