

TOSHIBA PHOTOINTERRUPTER INFRARED LED + PHOTOTRANSISTOR

TLP810

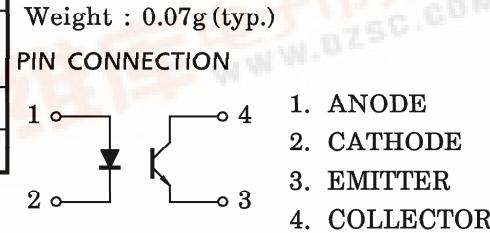
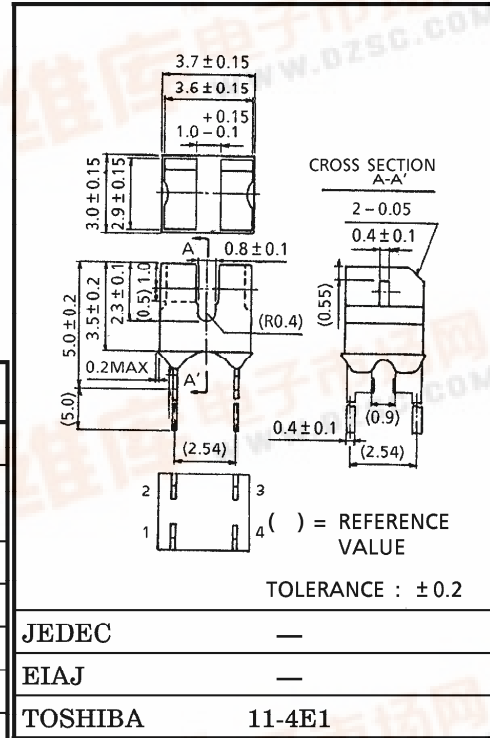
MOTOR ROTATION AND IRIS DETECTION FOR CAMERA
TRUCK DETECTION OF MICRO FLOPPY DISK DRIVE

Unit in mm

- Very small package
- High resolution : Slit width 0.4mm
- Gap : 1mm
- Directly mountable on PCB using the stand off of lead

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
LED	Forward Current	I _F	50	mA
	Forward Current Derating (Ta > 25°C)	I _F / °C	-0.67	mA / °C
	Reverse Voltage	V _R	5	V
DETECTOR	Collector-Emitter Voltage	V _{CEO}	35	V
	Emitter Collector Voltage	V _{ECO}	5	V
	Collector Current	I _C	20	mA
	Collector Power Dissipation	P _C	75	mW
	Collector Power Dissipation (Ta > 25°C)	ΔP _C / °C	-1	mW / °C
Operating Temperature Range		T _{opr}	-25~85	°C
Storage Temperature Range		T _{stg}	-40~100	°C



OPTO-ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
LED	Forward Voltage	V _F	I _F = 10mA	1.00	1.15	1.30	V
	Reverse Current	I _R	V _R = 5V	—	—	10	μA
	Capacitance	C _T	V = 0, f = 1MHz	—	30	—	pF
DETECTOR	Dark Current	I _D (I _{CEO})	V _{CE} = 20V, I _F = 0	—	—	100	nA
	Capacitance	C _T	V = 0, f = 1MHz	—	13	—	pF
COUPLED	Current Transfer Ratio	I _C / I _F	V _{CE} = 0.6V, I _F = 5mA	5	—	30	%
	Collector-Emitter Saturation Voltage	V _{CE} (sat)	I _F = 8mA, I _C = 0.1mA	—	0.1	0.4	V
	Rise Time	t _r	V _{CC} = 5V, I _C = 0.2mA, R _L = 1kΩ	—	50	—	μs
	Fall Time	t _f	V _{CC} = 5V, I _C = 0.2mA, R _L = 1kΩ	—	50	—	μs

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TOSHIBA is continually working to improve the quality and the reliability of its products. Nevertheless, semiconductor devices in general can malfunction or fail due to their inherent electrical sensitivity and vulnerability to physical stress. It is the responsibility of the buyer, when utilizing TOSHIBA products, to observe standards of safety, and to avoid situations in which a malfunction or failure of a TOSHIBA product could cause loss of human life, bodily injury or damage to property. In developing your designs, please ensure that TOSHIBA products are used within specified operating ranges as set forth in the most recent products specifications. Also, please keep in mind the precautions and conditions set forth in the TOSHIBA Semiconductor Reliability Handbook.

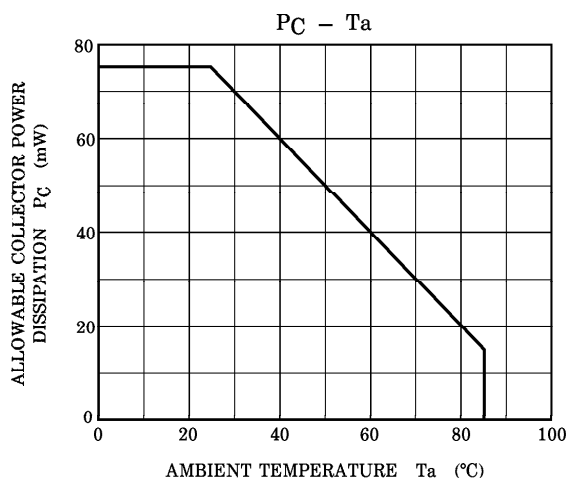
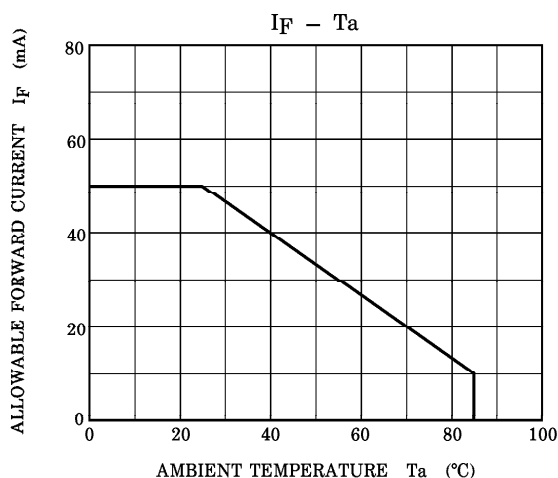
PRECAUTION

Please be careful of the followings.

1. Soldering temperature : 260°C max Soldering time : 5s max
Soldering portion : at above 1.5mm from the lower part of the body.
2. Be careful of not attaching residual flux and chemicals to the light emitting surface and light receiving surface.

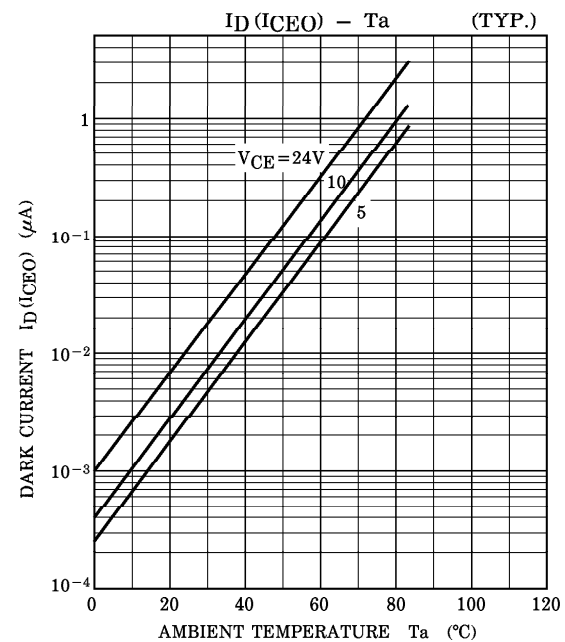
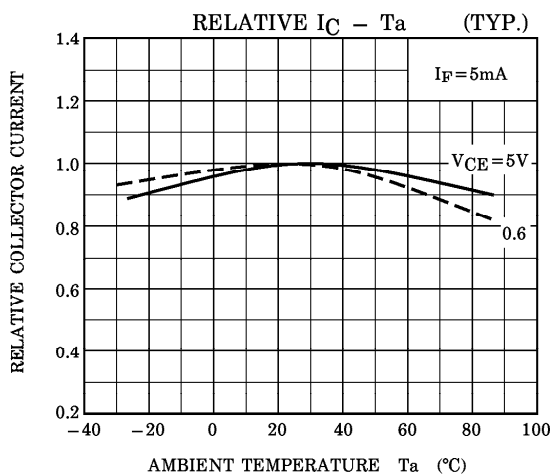
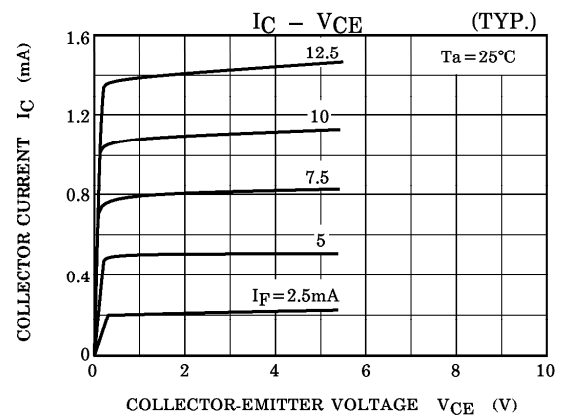
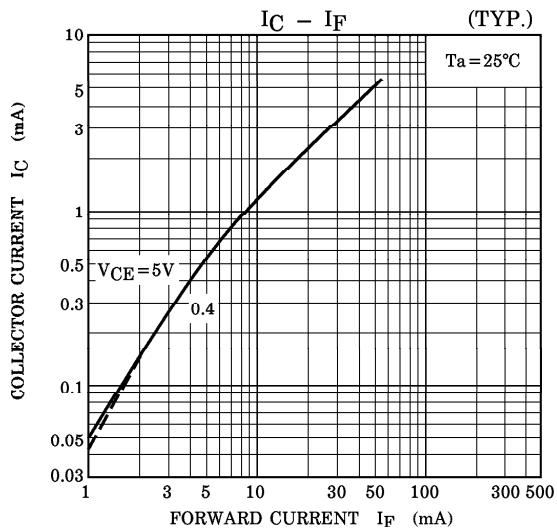
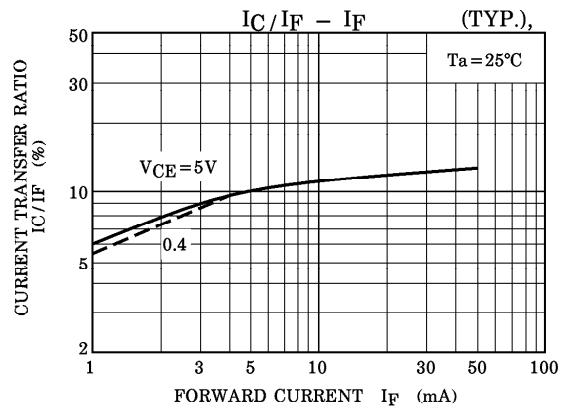
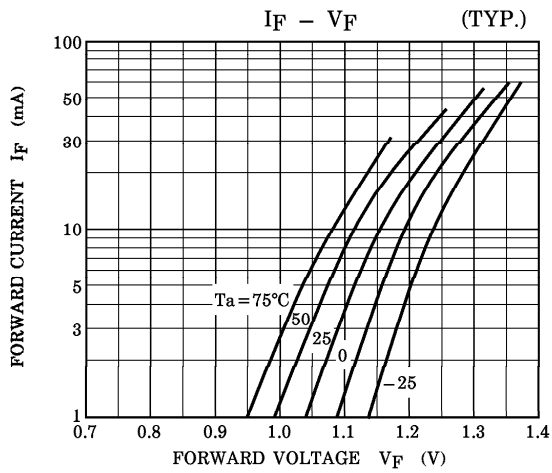
ENVIRONMENT

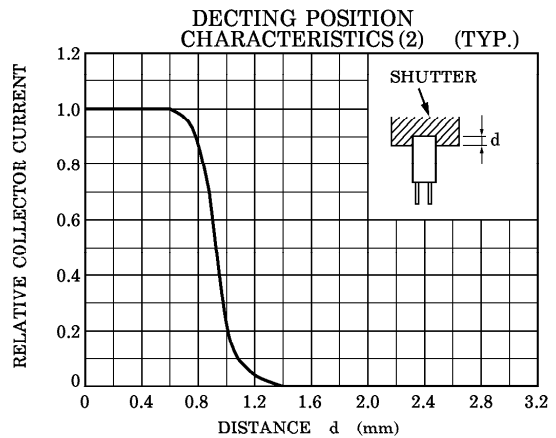
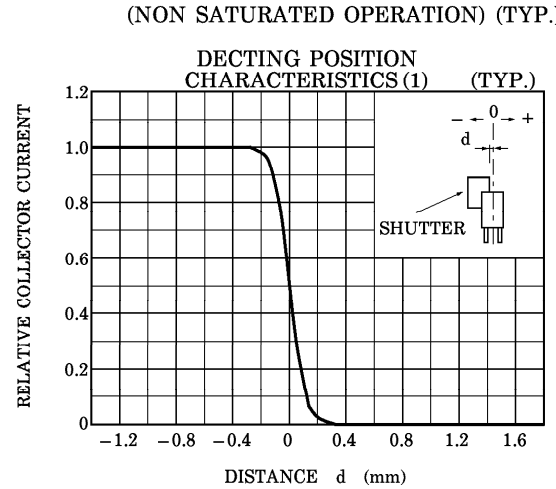
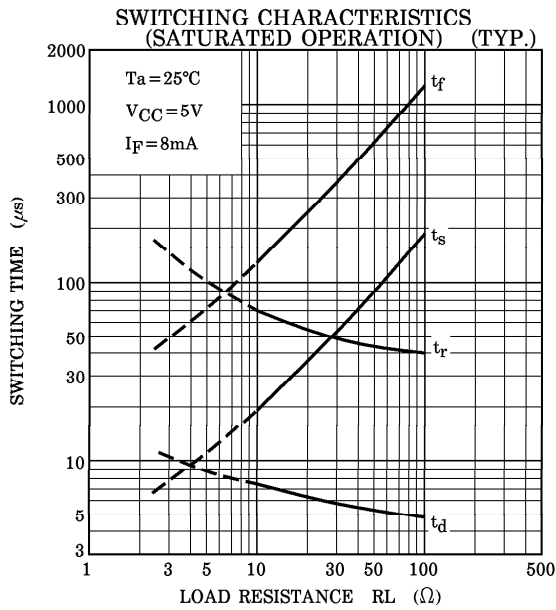
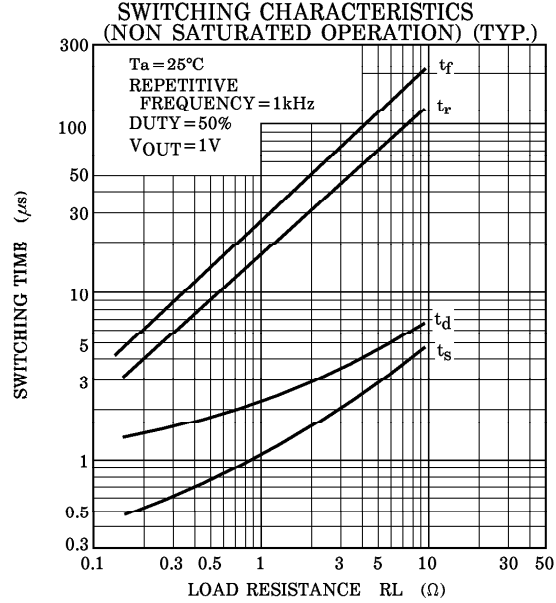
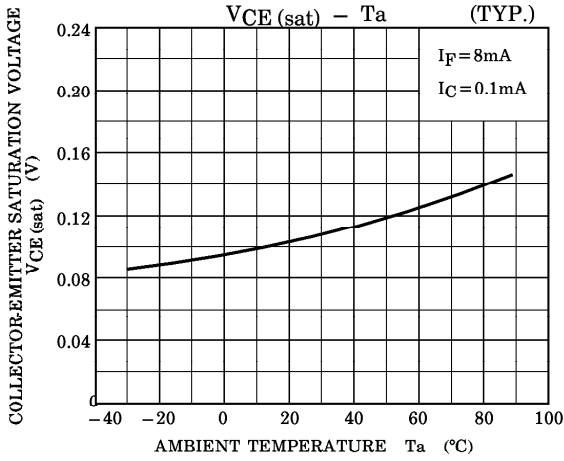
- Should not be exposed to corrosive gas such as hydrogen sulfide gas and a sea breeze.
- Should not be exposed to visible dust.
- Should not be exposed to direct sunlight.
If any case, should not be subject to load which may result in deformation / deterioration of products.



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- Gallium arsenide (GaAs) is a substance used in the products described in this document. GaAs dust and fumes are toxic. Do not break, cut or pulverize the product, or use chemicals to dissolve them. When disposing of the products, follow the appropriate regulations. Do not dispose of the products with other industrial waste or with domestic garbage.
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SWITCHING TIME TEST CIRCUIT

