

TOSHIBA PHOTOINTERRUPTER INFRARED LED + PHOTOTRANSISTOR

# TLP810

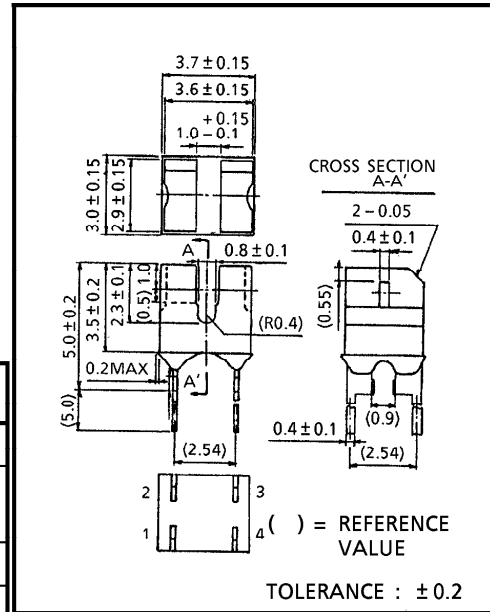
MOTOR ROTATION AND IRIS DETECTION FOR CAMERA  
TRUCK DETECTION OF MICRO FLOPPY DISK DRIVE

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)

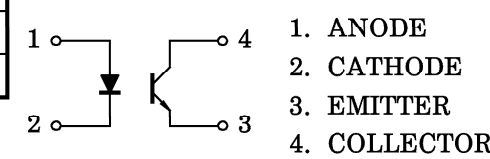
CHARACTERISTIC		SYMBOL	RATING	UNIT
LED	Forward Current	$I_F$	50	mA
	Forward Current Derating (Ta > 25°C)	$I_F / ^\circ C$	-0.67	mA / °C
	Reverse Voltage	$V_R$	5	V
DETECTOR	Collector-Emitter Voltage	$V_{CEO}$	35	V
	Emitter Collector Voltage	$V_{ECO}$	5	V
	Collector Current	$I_C$	20	mA
	Collector Power Dissipation	$P_C$	75	mW
	Collector Power Dissipation (Ta > 25°C)	$\Delta P_C / ^\circ C$	-1	mW / °C
Operating Temperature Range		$T_{opr}$	-25~85	°C
Storage Temperature Range		$T_{stg}$	-40~100	°C



JEDEC	—
EIAJ	—
TOSHIBA	11-4E1

Weight : 0.07g (typ.)

PIN CONNECTION



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	$\mu A$
	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	$t_r$	$V_{CC} = 5V, I_C = 0.2mA, R_L = 1k\Omega$	—	50	—	$\mu s$
	Fall Time	$t_f$		—	50	—	$\mu s$

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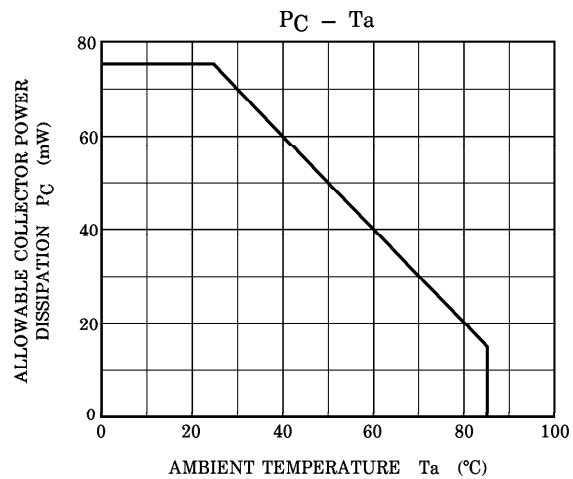
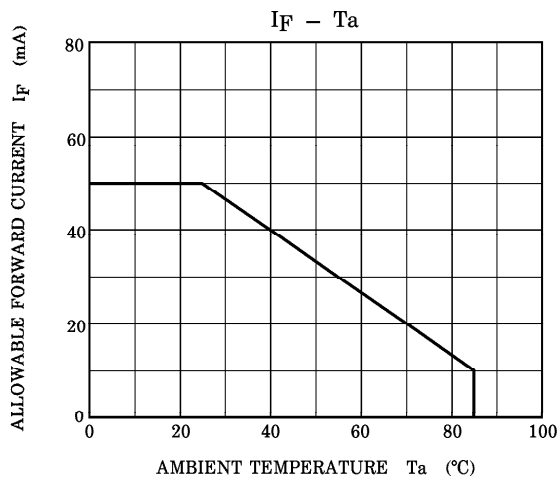
PRECAUTION

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.



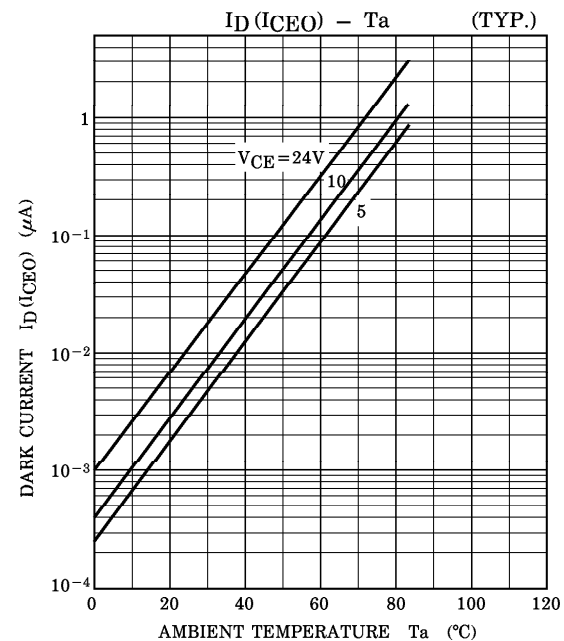
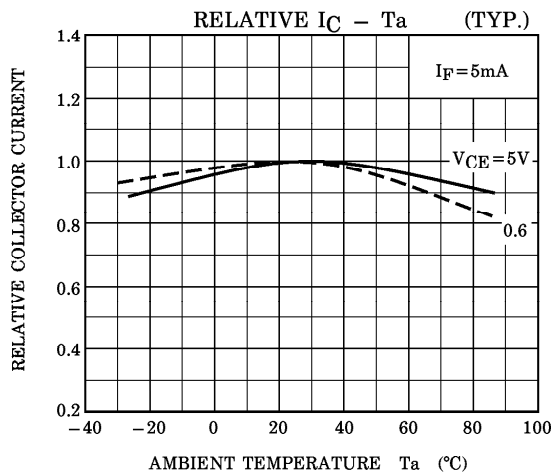
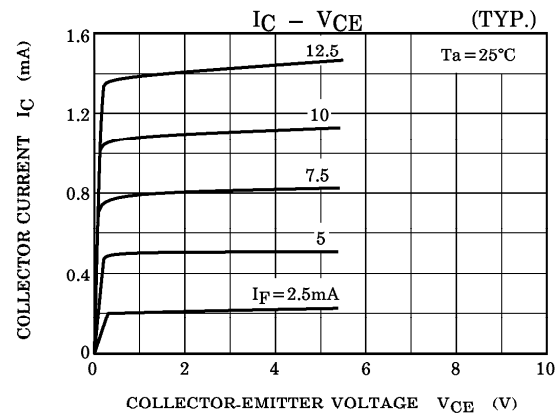
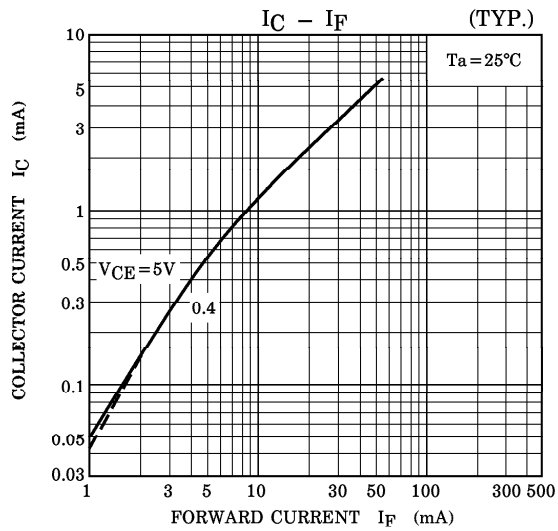
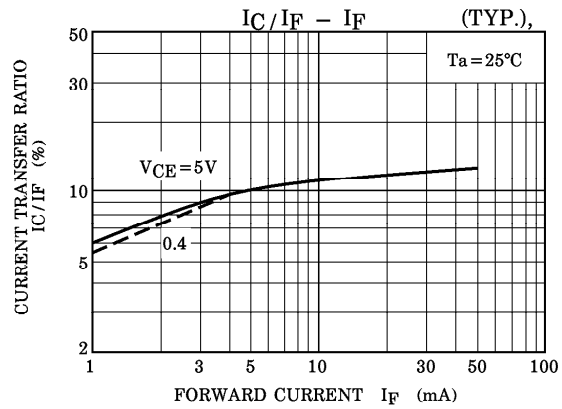
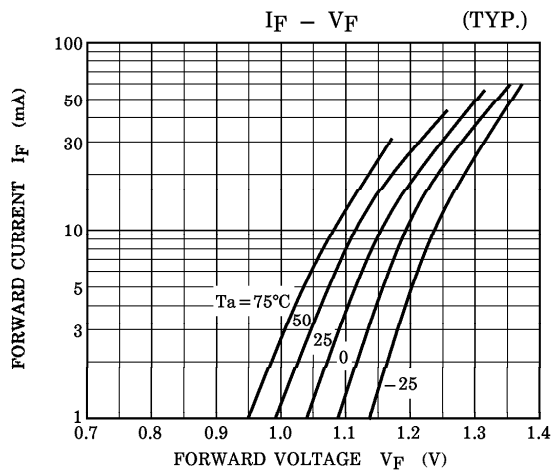
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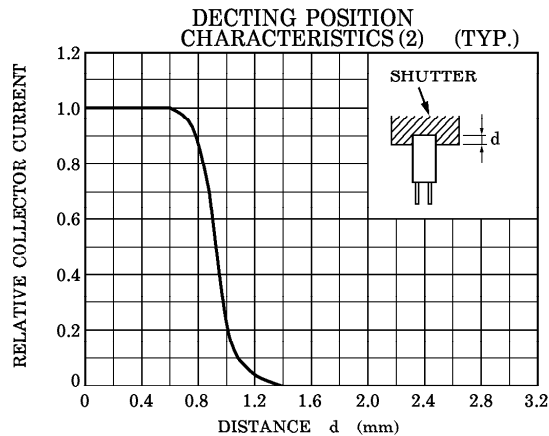
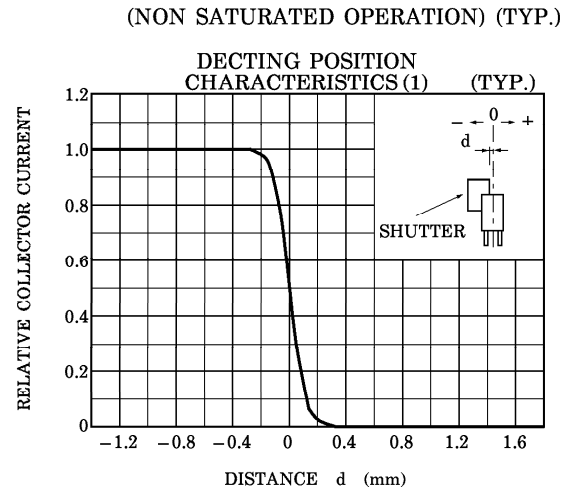
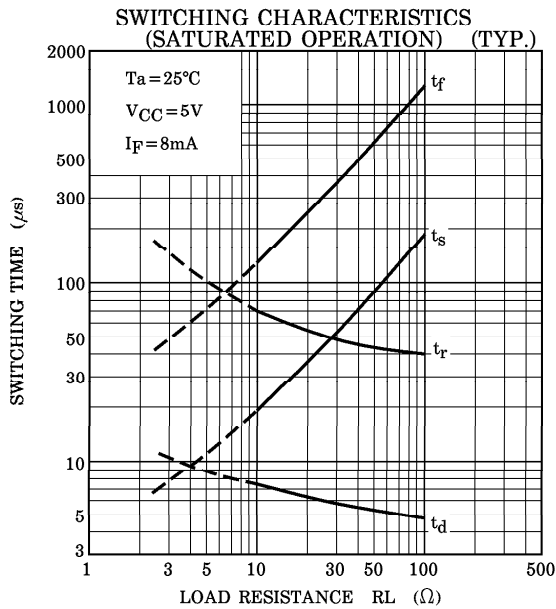
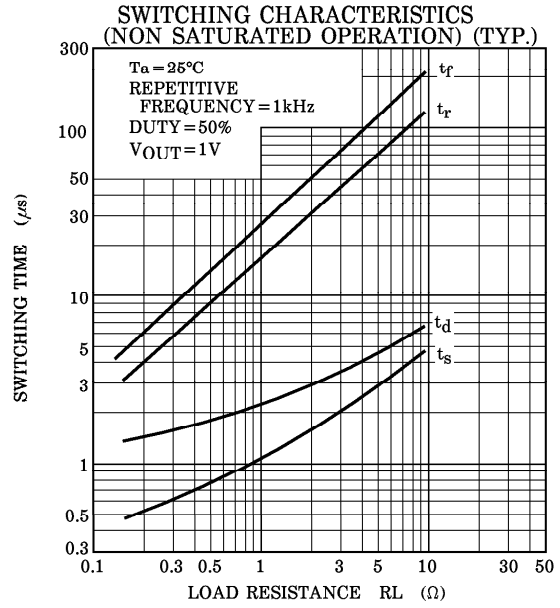
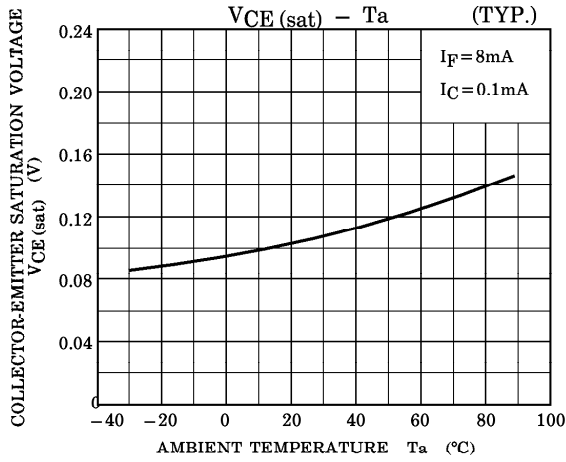
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SWITCHING TIME TEST CIRCUIT

