
TOSHIBA Photocoupler GaA As Ired + Photo IC

TLP751

Digital Logic Ground Isolation

Line Receiver

Microprocessor System Interfaces

Absolute Maximum Ratings (Ta = 25°C)

Characteristic		Symbol	Rating	Unit
LED	Forward current (Note 1)	I_F	25	mA
	Pulse forward current (Note 2)	I_{FP}	50	mA
	Peak transient forward current (Note 3)	I_{FPT}	1	A
	Reverse voltage	V_R	5	V
	Diode power dissipation (Note 4)	P_D	45	mW
Detector	Output current	I_O	8	mA
	Peak output current	I_{OP}	16	mA
	Output voltage	V_O	-0.5~15	V
	Supply voltage	V_{CC}	-0.5~15	V
	Base current	I_B	5	mA
	Output power dissipation (Note 5)	P_O	100	mW
	Emitter-base reverse voltage	V_{EB}	5	V
Operating temperature range		T_{opr}	-55~100	°C
Storage temperature range		T_{stg}	-55~125	°C
Lead solder temperature(10s) (Note 6)		T_{sol}	260	°C
Isolation voltage (AC,1min.,R.H. 60%) (Note 7)		BV_S	5000	Vrms

Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) are within the absolute maximum ratings.

Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/"Derating Concept and Methods") and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

(Note 1) Derate 0.8mA above 70°C

(Note 2) 50% duty cycle, 1ms pulse width.
Derate 1.6mA / °C above 70°C

(Note 3) Pulse width 1µs, 300pps.

(Note 4) Derate 0.9mW / °C above 70°C

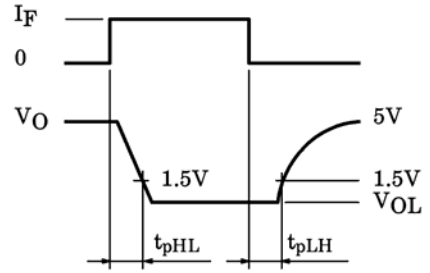
(Note 5) Derate 2mW / °C above 70°C

(Note 6) Soldering portion of lead : up to 2mm from the body of the device.

(Note 7) Device considered a two terminal device: Pins 1,2,3 and 4 shorted together and pins 5,6,7 and 8 shorted together.

Test Circuit 1 : Switching Time Test Circuit

PULSE INPUT I_F $V_{CC}=5V$



Test Circuit 2 : Common Mode Noise Immunity Test Circuit

