TOSHIBA PHOTOCOUPLER GaAs IRED & PHOTO-TRANSISTOR

TLP504A, TLP504A-2

PROGRAMMABLE CONTROLLERS

AC / DC-INPUT MODULE

SOLID STATE RELAY

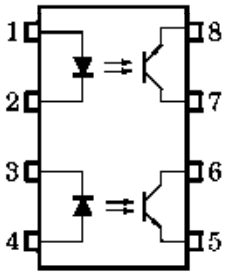
Unit in mm

The TOSHIBA TLP504A and TLP504A-2 consists of a photo-transistor optically coupled to a gallium arsenide infrared emitting diode.
The TLP504A offers two isolated channels in a eight lead plastic DIP package, while the TLP504A-2 provides four isolated channels in a sixteen plastic DIP package.

- Collector-Emitter Voltage : 55V (Min.)
- Current Transfer Ratio : 50% (Min.)
  Rank GB : 100% (Min.)
- Isolation Voltage : 2500Vrms (Min.)
- UL Recognized : UL1577,
  File No. E67349

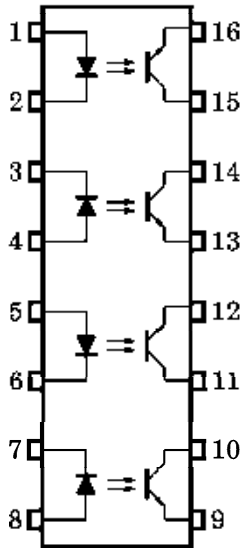
PIN CONFIGURATIONS (TOP VIEW)

TLP504A



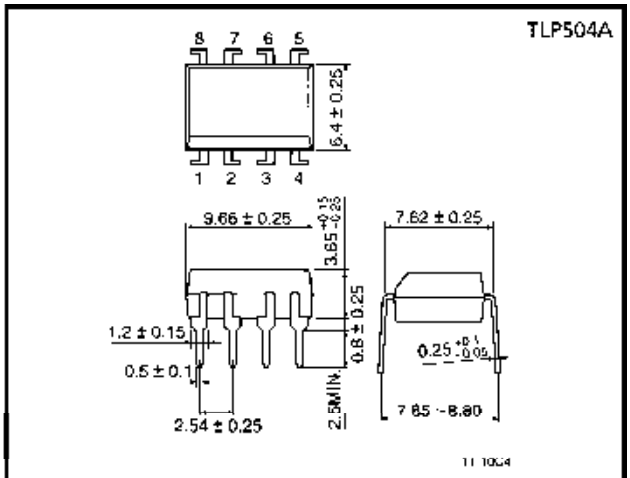
1, 4 : ANODE
2, 3 : CATHODE
5, 8 : EMITTER
6, 7 : COLLECTOR

TLP504A-2



1, 4, 5, 8 : ANODE
2, 3, 6, 7 : CATHODE
9, 12, 13, 16 : EMITTER
10, 11, 14, 15 : COLLECTOR

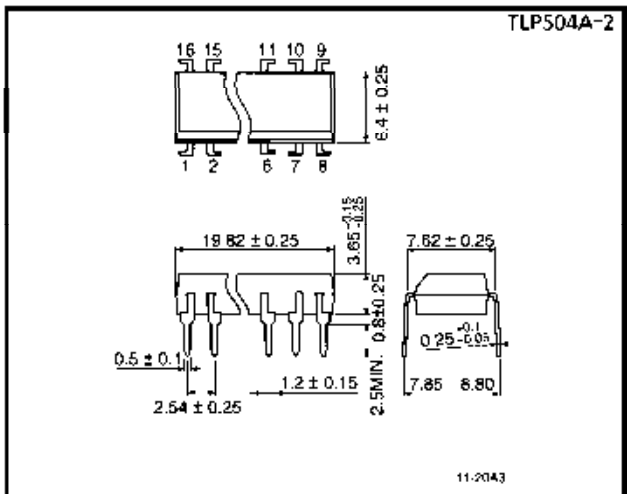
TLP504A



TOSHIBA 11-10C4

Weight : 0.54g

TLP504A-2



TOSHIBA 11-20A3

Weight : 1.1g

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	RATING		UNIT
			TLP504A	TLP504A-2	
LED	Forward Current	I_F	60	50	mA
	Forward Current Derating	ΔI_F / °C	−0.7 (Ta ≧ 39°C)	−0.5 (Ta ≧ 25°C)	mA / °C
	Pulse Forward Current	I_{FP}	1 (100μs pulse, 100pps)		A
	Reverse Voltage	V_R	5		V
	Junction Temperature	T_j	125		°C
DETECTOR	Collector-Emitter Voltage	V_{CEO}	55		V
	Emitter-Collector Voltage	V_{ECO}	7		V
	Collector Current	I_C	50		mA
	Collector Power Dissipation (1 Circuit)	P_C	150	100	mW
	Collector Power Dissipation Derating (1 Circuit Ta ≧ 25°C)	ΔP_C / °C	−1.5	−1.0	mW / °C
	Junction Temperature	T_j	125		°C
Storage Temperature Range		T_{stg}	−55~150		°C
Operating Temperature Range		T_{opr}	−55~100		°C
Lead Soldering Temperature		T_{sol}	260 (10s)		°C
Total Package Power Dissipation		R_T	250	150	mW
Total Package Power Dissipation Derating (Ta ≧ 25°C)		ΔP_T / °C	−2.5	−1.5	mW / °C
Isolation Voltage		BV_S	2500 (AC, 1min., R.H. ≦ 60%) (Note 1)		Vrms

(Note 1) Device considered a two terminal device : LED side pins shorted together and DETECTOR side pins shorted together.

RECOMMENDED OPERATING CONDITIONS

CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT
Supply Voltage	V_{CC}	—	5	24	V
Forward Current	I_F	—	16	20	mA
Collector Current	I_C	—	1	10	mA
Operating Temperature	T_{opr}	−25	—	85	°C