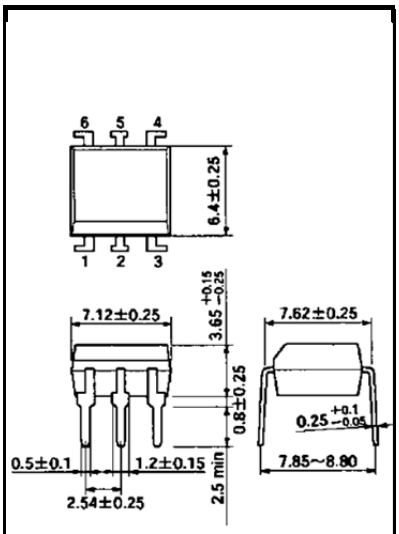
TOSHIBA Photocoupler Photo Relay

TLP797J

Telecommunication
Measurement Instrumenation
FA

Unit: mm



JEDEC	—
JEITA	—
TOSHIBA	11-7A8

Weight: 0.4 g (typ.)

The TOSHIBA TLP797J consists of an aluminum gallium arsenide infrared emitting diode optically coupled to a photo-MOS FET in a six lead plastic DIP package (DIP6).

The TLP797J is a bi-directional switch can replace mechanical relays in many applications.

- 6 pin DIP (DIP6)
- 1-form-A
- Peak off-state voltage: 600 V (min)
- Trigger LED current: 5 mA (max)
- On-state current: 100 mA (max)
- On-state resistance: 35 Ω (max)
- Isolation voltage: 5000 Vrms (min)
- UL recognized: UL1577, file No. E67349
- Option(D4) type

  VDE approved: DIN EN 60747-5-2

  Certificate No. 40009302

  Maximum operating insulation voltage: 890 Vpk

  Maximum permissible over voltage: 6000 Vpk

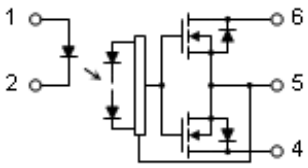
  Note: When ordering an EN60747-5-2 approved device, "Option (D4)" should be designated.

- Construction mechanical rating

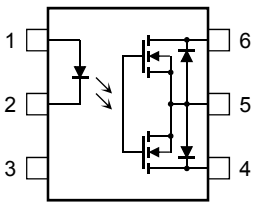
	7.62 mm pitch standard type	10.16 mm pitch TLPXXXF type
Creepage distance	7.0 mm (min)	8.0 mm (min)
Clearance	7.0 mm (min)	8.0 mm (min)
Insulation thickness	0.4 mm (min)	0.4 mm (min)

Note: When applying safety standard certification, use the standard part number, e.g., TLP797J.

Schematic



Pin Configurations (top view)



1: Anode
2: Cathode
3: N.C.
4: Drain D1
5: Source
6: Drain D2

Start of commercial production
2001/07

Absolute Maximum Ratings (Ta = 25°C)

Characteristics			Symbol	Rating	Unit
LED	Forward current		I_F	50	mA
	Forward current derating (Ta ≥ 25°C)		ΔI_F/°C	−0.5	mA/°C
	Peak forward current (100 μs pulse, 100 pps)		I_{FP}	1	A
	Reverse voltage		V_R	5	V
	Junction temperature		T_j	125	°C
Detector	Off-state output terminal voltage		V_{OFF}	600	V
	On-state current	A connection	I_{ON}	100	mA
		B connection		100	
		C connection		200	
	On-state current derating (Ta ≥ 25°C)	A connection	ΔI_{ON}/°C	−1.0	mA/°C
		B connection		−1.0	
		C connection		−2.0	
	Junction temperature		T_j	125	°C
Storage temperature range			T_{stg}	−55 to 125	°C
Operating temperature range			T_{opr}	−40 to 85	°C
Lead soldering temperature (10 s)			T_{sol}	260	°C
Isolation voltage (AC, 1 minute, R.H. ≤ 60%) (Note 1)			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: Device considered a two-terminal device: Pins 1, 2 and 3 shorted together, and pins 4, 5 and 6 shorted together.

Recommended Operating Conditions

Characteristics	Symbol	Min	Typ.	Max	Unit
Supply voltage	V_{DD}	—	—	480	V
Forward current	I_F	7.5	15	25	mA
On-state current	I_{ON}	—	—	100	mA
Operating temperature	T_{opr}	−20	—	65	°C

Note: