

OFFICE MACHINE.
HOUSEHOLD USE EQUIPMENT.
SOLID STATE RELAY.
SWITCHING POWER SUPPLY.

The TOSHIBA TLP741G consists of a photo-thyristor optically coupled to a gallium arsenide infrared emitting diode in a six lead plastic DIP package.

- . Peak Off-State Voltage : 400V Min.
- . Trigger LED Current : 10mA Max.
- . On-State Current : 150mA Max.
- . UL Recognized : UL1577, File No. E67349
- . BSI Approved : BS415:1990, BS7002:1989 (EN60950)

Certificate No. 6617

Isolation Voltage : 4000V_{rms} (Min)

. Option (D4) type

VDE Approved : DIN VDE0884/08.87,
Certificate No. 65640

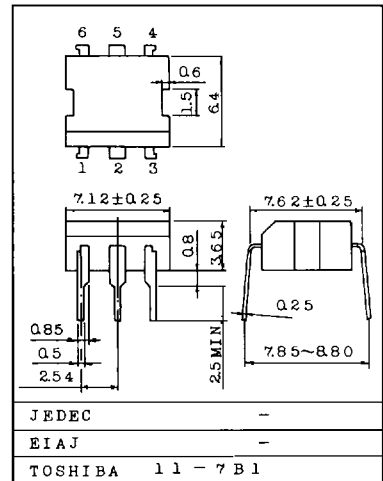
Maximum Operating Insulation Voltage : 630V_{pk}

Highest Permissible Over Voltage : 6000V_{pk}

(Note) When a VDE0884 approved type is needed,
please designate the " Option (D4) "

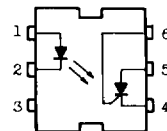
	7.62mm pitch standard type	10.16mm pitch (LF2) type
. Creepage Distance :	7.0mm (Min)	8.0mm (Min)
Clearance :	7.0mm (Min)	8.0mm (Min)
Insulation Thickness :	0.5mm (Min)	0.5mm (Min)

Unit in mm



Weight: 0.35g

PIN CONFIGURATIONS (TOP VIEW)



- 1: ANODE
- 2: CATHODE
- 3: NC
- 4: CATHODE
- 5: ANODE
- 6: GATE

MAXIMUM RATING (Ta=25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
LED	Forward Current	IF	60	mA
	Forward Current Derating (Ta ≥ 39°C)	ΔIF/°C	-0.7	mA/°C
	Peak Forward Current (100μs pulse, 100pps)	IFP	1	A
	Power Dissipation	PD	100	mW
	Power Dissipation Derating (Ta ≥ 25°C)	ΔPD/°C	-1.0	mW/°C
	Reverse Voltage	VR	5	V
	Junction Temperature	Tj	125	°C
DETECTOR	Peak Forward Voltage (R _{GK} =27KΩ)	VDRM	400	V
	Peak Reverse Voltage (R _{GK} =27KΩ)	VRRM	400	V
	On-State Current	IT(RMS)	150	mA
	On-State Current Derating (Ta ≥ 25°C)	ΔIT/°C	-2.0	mA/°C
	Peak On-State Current (100μs pulse, 120pps)	ITP	3	A
	Peak One Cycle Surge Current	ITSM	2	A
	Peak Reverse Gate Voltage	VGM	5	V
	Power Dissipation	PD	150	mW
	Power Dissipation Derating (Ta ≥ 25°C)	ΔPD/°C	-2.0	mW/°C
	Junction Temperature	Tj	100	°C
Storage Temperature Range		Tstg	-55 ~ 150	°C
Operating Temperature Range		Topr	-55 ~ 100	°C
Lead Soldering Temperature (10sec.)		Tsold	260	°C
Total Package Power Dissipation		PT	250	mW
Total Package Power Dissipation Derating (Ta ≥ 25°C)		ΔPT/°C	-3.3	mW/°C
Isolation Voltage (AC, 1 min, RH ≤ 60%)		BVS	4000	Vrms

INDIVIDUAL ELECTRICAL CHARACTERISTICS (Ta=25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION		MIN.	TYP.	MAX.	UNIT
LED	Forward Voltage	V _F	I _F =10mA		1.0	1.15	1.3	V
	Reverse Current	I _R	V _R =5V		-	-	10	μA
	Capacitance	C _T	V=0, f=1MHz		-	30	-	pF
DETECTOR	Off-State Current	I _{DRM}	V _{AK} =400V R _{GK} =27kΩ	Ta=25°C	-	10	5000	nA
				Ta=100°C	-	1	100	μA
	Reverse Current	I _{RRM}	V _{KA} =400V R _{GK} =27kΩ	Ta=25°C	-	10	5000	nA
				Ta=100°C	-	1	100	μA
	On-State Voltage	V _{TM}	I _{TM} =100mA		-	0.9	1.3	V
	Holding Current	I _H	R _{GK} =27kΩ		-	0.2	-	mA
	Off-State dv/dt	dv/dt	V _D =280V, R _{GK} =27kΩ		5	10	-	V/μs
	Capacitance	C _j	V=0, f=1MHz		-	20	-	pF
			Anode to Gate Gate to Cathode		-	350	-	pF

COUPLED CHARACTERISTICS (Ta=25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Trigger LED Current	I _{FT}	V _{AK} =6V, R _{GK} =27kΩ	-	4	10	mA
Turn-on Time	t _{on}	I _F =30mA, V _{AA} =50V R _{GK} =27kΩ	-	10	-	μs
Coupled dv/dt	dv/dt	V _S =500V, R _{GK} =27kΩ	500	-	-	V/μs
Capacitance Input to Output	C _S	V _S =0, f=1MHz	-	0.8	-	pF
Isolation Resistance	R _S	V _S =500V	5×10 ¹⁰	10 ¹⁴	-	Ω
Isolation Voltage	BV _S	AC, 1 minute	4000	-	-	V _{rms}
		AC, 1 second	-	10000	-	
		DC, 1 minute	-	10000	-	V _{dc}

RECOMMENDED OPERATING CONDITIONS

CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT
Supply Voltage	V _{AC}	-	-	120	V _{ac}
Forward Current	I _F	15	20	25	mA
Operating Temperature	T _{opr}	-25	-	85	°C
Gate to Cathode Resistance	R _{GK}	-	27	33	kΩ
Gate to Cathode Capacity	C _{GK}	-	0.01	0.1	μF

