

TRIAC DRIVER.

PROGRAMMABLE CONTROLLERS.

AC-OUTPUT MODULE.

SOLID STATE RELAY.

The TOSHIBA TLP561J consists of a zero voltage crossing turn-on photo-triac optically coupled to a gallium arsenide infrared emitting diode in a six lead plastic DIP package.

- . Peak Off-State Voltage : 600V Min.
- . On-State Current : 100mA Max.
- . Isolation Voltage : 2500Vrms Min.
- . UL Recognized : File No. E67349
- . Isolation Operating Voltage : 250Vac or 300Vdc for Isolation Groupe C^{*1}
- . Trigger LED Current

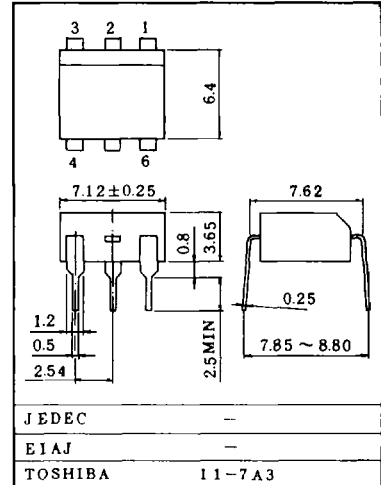
CLASSI- FICATION*	TRIGGER LED CURRENT (mA)		MARKING OF CLASSI- FICATION
	V _T =6V, T _a =25°C		
	MIN.	MAX.	
(IFT7)	-	7	T7
Standard	-	10	T7, Blank

* Ex. (IFT7) ; TLP561J (IFT7)

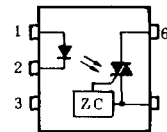
- . Note: Application type name for certification test, please use standard product type name, i.e.
TLP561J (IFT7) : TLP561J

*1 : According to VDE0110, table 4.

Unit in mm



PIN CONFIGURATIONS (TOP VIEW)



- 1: ANODE
- 2: CATHODE
- 3: NC
- 4: TERMINAL 1
- 6: TERMINAL 2

TLP561J

MUXIMUM RATINGS (Ta=25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
LED	Forward Current	I_F	50	mA
	Forward Current Derating (Ta ≥ 53°C)	$\Delta I_F/^\circ\text{C}$	-0.7	mA/°C
	Peak Forward Current (100µs pulse, 100pps)	I_{FP}	1	A
	Reverse Voltage	V_R	5	V
	Junction Temperature	T_j	125	°C
DETECTOR	Off-State Output Terminal Voltage	V_{DRM}	600	V
	On-State RMS Current	Ta=25°C	100	mA
		Ta=70°C	50	
	On-State Current Derating (Ta ≥ 25°C)	$\Delta I_T/^\circ\text{C}$	-1.1	mA/°C
	Peak On-State Current (100µs pulse, 120pps)	I_{TP}	2	A
	Peak Nonrepetitive Surge Current (Pw=10ms, DC=10%)	I_{TSM}	1.2	A
Junction Temperature	T_j	100	°C	
Storage Temperature Range		T_{stg}	-55~125	°C
Operating Temperature Range		T_{opr}	-40~100	°C
Lead Soldering Temperature (10 sec.)		T_{sold}	260	°C
Isolation Voltage (AC, 1 min., RH ≤ 60%)		BV_S	2500	V _{rms}

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	-	10	-	pF
DETECTOR	Peak Off-State Current	I _{DRM}	V _{DRM} =600V	-	10	1000	nA
	Peak On-State Voltage	V _{TM}	I _{TM} =100mA	-	1.7	3.0	V
	Holding Current	I _H	-	-	0.2	-	mA
	Critical Rate of Rise of Off-State Voltage	dv/dt	V _{in} =240V _{rms} , Ta=85°C (Fig.1)	200	500	-	V/μs
	Critical Rate of Rise of Commutating Voltage	dv/dt(c)	V _{in} =60V _{rms} , I _T =15mA (Fig.1)	-	0.2	-	V/μs

COUPLED ELECTRICAL CHARACTERISTICS (Ta=25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Trigger LED Current	I _{FT}	V _T =6V, R _L =100Ω	-	5	10	mA
Inhibit Voltage	V _{IH}	I _F =Rated I _{FT}	-	-	50	V
Leakage in Inhibited State	I _{IH}	I _F =Rated I _{FT} V _T =Rated V _{DRM}	-	200	600	μA
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	BVS	AC, 1 minute	2500	-	-	V _{rms}
		AC, 1 second	-	5000	-	
		DC, 1 minute	-	5000	-	V _{dc}

RECOMMENDED OPERATING CONDITIONS

CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT
Supply Voltage	V _{AC}	-	-	240	V _{ac}
Forward Current	I _F	15	20	25	mA
Peak On-State Current	I _{TP}	-	-	1	A
Operating Temperature	T _{opr}	-25	-	85	°C

Fig. 1 dv/dt TEST CIRCUIT

