

## TENTATIVE

TOSHIBA Photocoupler GaAs Ired+Photo-Triac

# TLP763J

Office Machine

Household Use Equipment

Triac Driver

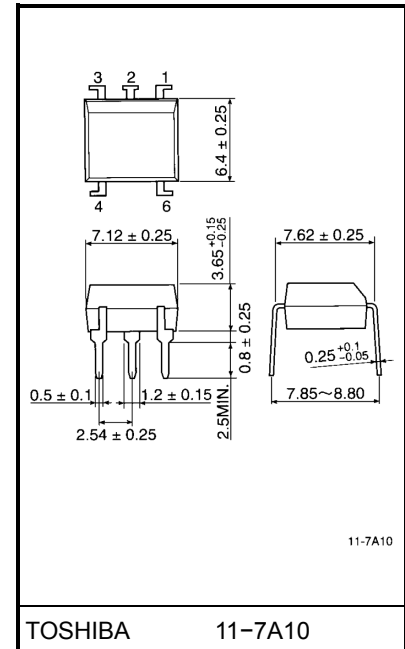
Solid State Relay

The TOSHIBA TLP763J consists of a GaAs infrared LED optically coupled to a zero voltage crossing turn-on photo-triac in a 6 lead plastic DIP.

- Peak off-state voltage: 600 V (min.)
  - Trigger LED current: 10 mA (max.)
  - On-state current: 100 mA (max.)
  - Isolation voltage: 4000Vrms (min.)
  - UL recognized: UL1577, file No. E67349
  - BSI approved: BS EN60065: 1994,  
Certificate No. 7831  
BS EN60065: 1992,  
Certificate No. 7832
  - SEMKO approved: SS-EN60065 (EN60065, 1993)  
SS-EN60950 (EN60950, 1992)  
SS-EN60335 (EN60335, 1988)  
Certificate No. 9522145
  - Option (D4) type  
VDE approved: DIN VDE0884, 06.92  
Certificate No. 91803  
Maximum operating insulation voltage: 890 VPK  
Highest permissible over voltage: 6000 VPK
- (Note) When a VDE0884 approved type is needed, please designate the "option (D4)"**

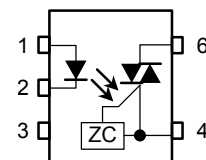
	7.62mm pich TLP763J type	10.16mm pich TLP763JF type
• Creepage distance	: 7.0mm (min.)	8.0mm (min.)
Clearance	: 7.0mm (min.)	8.0mm (min.)
Internal creepage path	: 4.0mm (min.)	4.0mm (min.)
Insulation thickness	: 0.5mm (min.)	0.5mm (min.)

Unit in mm



Weight: 0.42g

## Pin Configuration (top view)



- 1 : Anode
- 2 : Cathode
- 3 : Nc
- 4 : Triac 1
- 6 : Triac 2

**Maximum Ratings (Ta = 25°C)**

Characteristic			Symbol	Rating	Unit
LED	Forward current		I <sub>F</sub>	50	mA
	Forward current derating (Ta ≥ 53°C)		ΔI <sub>F</sub> /°C	−0.7	mA/°C
	Peak forward current (100 μs pulse, 100 pps)		I <sub>FP</sub>	1	A
	Reverse voltage		V <sub>R</sub>	5	V
	Junction temperature		T <sub>j</sub>	125	°C
Detector	Off-state output terminal voltage		V <sub>DRM</sub>	600	V
	On-state RMS current	Ta = 25°C	I <sub>T(RMS)</sub>	100	mA
		Ta = 70°C		50	
	On-state current derating (Ta ≥ 25°C)		ΔI <sub>T</sub> /°C	−1.1	mA/°C
	Peak on-state current (100μs pulse, 120pps)		I <sub>TP</sub>	2	A
	Peak nonrepetitive surge current (PW = 10 ms, DC = 10%)		I <sub>TSM</sub>	1.2	A
	Junction temperature		T <sub>j</sub>	115	°C
Storage temperature range			T <sub>stg</sub>	−55~125	°C
Operating temperature range			T <sub>opr</sub>	−40~100	°C
Lead soldering temperature (10s)			T <sub>sol</sub>	260	°C
Isolation voltage (AC, 1 min., R.H.≤ 60%)			BV <sub>S</sub>	4000	Vrms

**Recommended Operating Conditions**

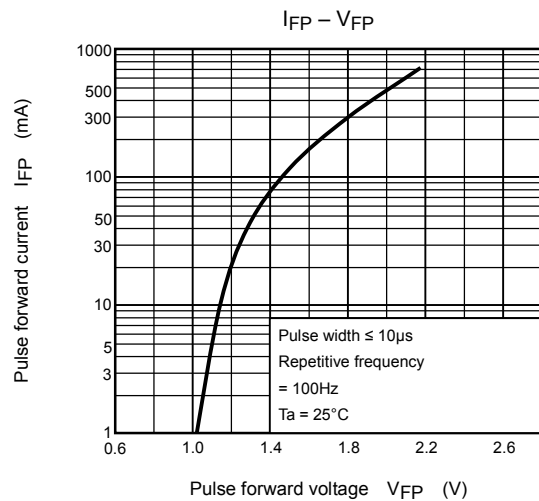
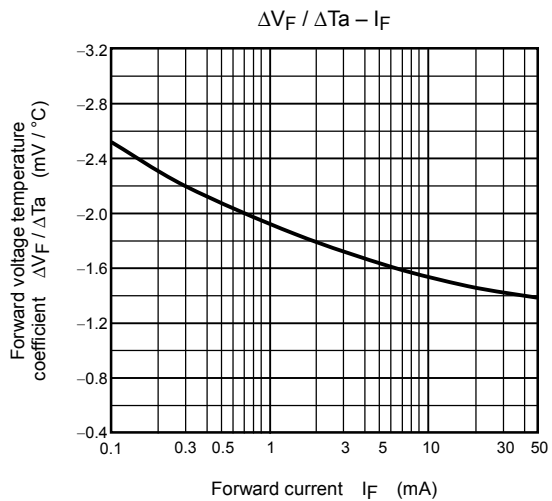
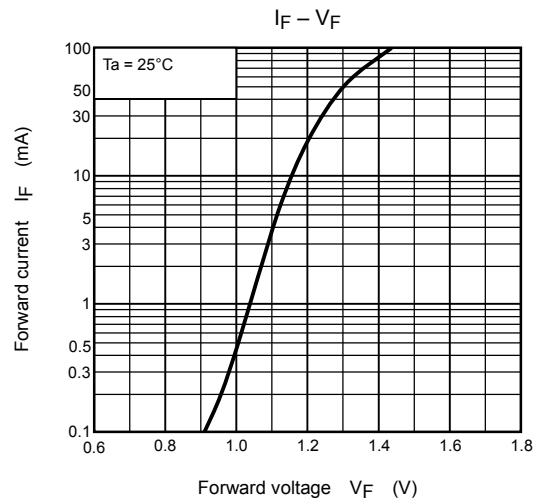
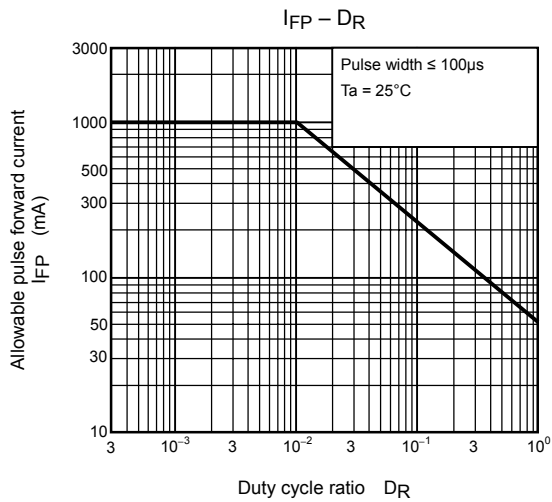
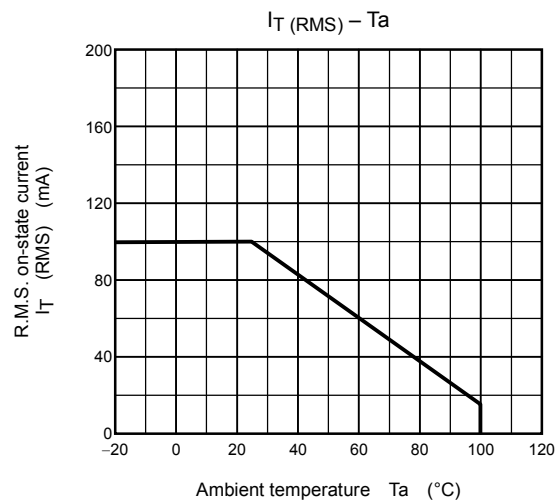
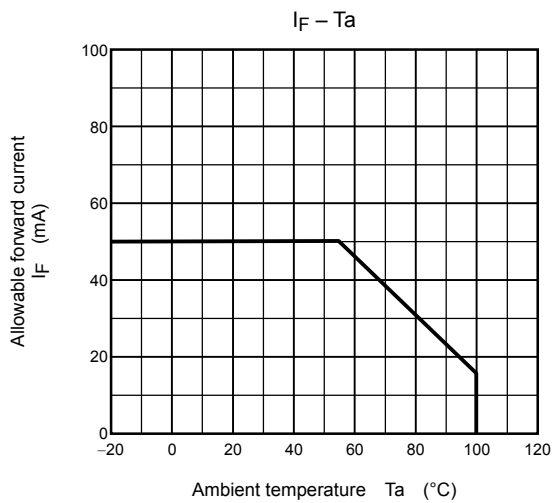
Characteristic	Symbol	Min.	Typ.	Max.	Unit
Supply voltage	$V_{AC}$	—	—	240	V <sub>ac</sub>
Forward current	$I_F$	15	20	25	mA
Peak on-state current	$I_{TP}$	—	—	1	A
Operating temperature	$T_{opr}$	-25	—	85	°C

## Individual Electrical Characteristics (Ta = 25°C)

Characteristic		Symbol	Test Condition	Min.	Typ.	Max.	Unit
LED	Forward voltage	$V_F$	$I_F = 10 \text{ mA}$	1.0	1.15	1.3	V
	Reverse current	$I_R$	$V_R = 5 \text{ V}$	—	—	10	$\mu\text{A}$
	Capacitance	$C_T$	$V = 0, f = 1 \text{ MHz}$	—	30	—	pF
Detector	Peak off-state current	$I_{\text{DRM}}$	$V_{\text{DRM}} = 600 \text{ V}$	—	10	1000	nA
	Peak on-state voltage	$V_{\text{TM}}$	$I_{\text{TM}} = 100 \text{ mA}$	—	1.7	3.0	V
	Holding current	$I_H$	—	—	0.6	—	mA
	Critical rate of rise of off-state voltage	$dv / dt$	$V_{\text{in}} = 240 \text{ V}, T_a = 85^\circ\text{C}$	—	500	—	V/ $\mu\text{s}$
	Critical rate of rise of commutating voltage	$dv / dt (c)$	$I_T = 15 \text{ mA}$ $V_{\text{in}} = 60\text{V}_{\text{rms}}$	—	0.2	—	V/ $\mu\text{s}$

## Coupled Electrical Characteristics (Ta = 25°C)

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Trigger LED current	$I_{\text{FT}}$	$V_T = 6 \text{ V}$	—	—	10	mA
Inhibit voltage	$V_{\text{IH}}$	$I_F = \text{rated } I_{\text{FT}}$	—	—	50	V
Leakage in inhibited state	$I_{\text{IH}}$	$I_F = \text{rated } I_{\text{FT}}$ $V_T = \text{rated } V_{\text{DRM}}$	—	200	600	$\mu\text{A}$
Capacitance (input to output)	$C_S$	$V_S = 0, f = 1 \text{ MHz}$	—	0.8	—	pF
Isolation resistance	$R_S$	$V_S = 500 \text{ V}$	$1 \times 10^{12}$	$10^{14}$	—	$\Omega$
Isolation voltage	$BV_S$	AC, 1 minute	4000	—	—	$V_{\text{rms}}$
		AC, 1 second, in oil	—	10000	—	
		DC, 1 minute, in oil	—	10000	—	$V_{\text{dc}}$



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