TENTATIVE

TOSHIBA Photocoupler GaAs Ired+Photo−Triac

TLP763J

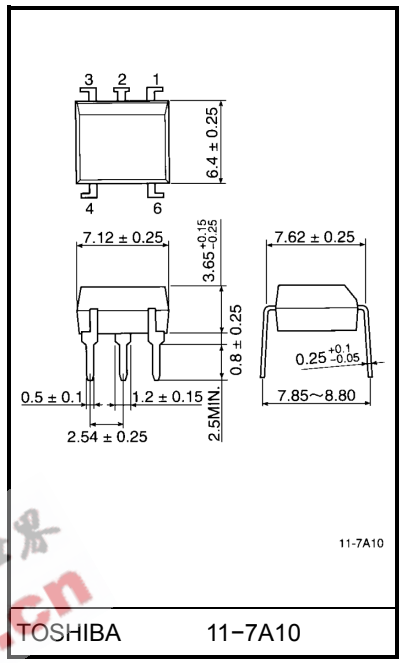
Office Machine

Household Use Equipment

Triac Driver

Solid State Relay

Unit in mm



Weight: 0.42g

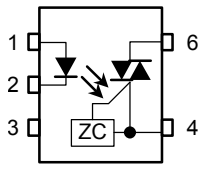
The TOSHIBA TLP763J consists of a GaAs infrared LED optically coupled to a zero voltage crossing turn−on photo−triac in a 6 lead plastic DIP.

- 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 V_{PK}
  Highest permissible over voltage: 6000 V_{PK}

  (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.)

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_F	50	mA
	Forward current derating (Ta ≥ 53°C)		ΔI_F/°C	−0.7	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_{DRM}	600	V
	On−state RMS current	Ta = 25°C	$I_{T(RMS)}$	100	mA
		Ta = 70°C		50	
	On−state current derating (Ta ≥ 25°C)		ΔI_T/°C	−1.1	mA/°C
	Peak on−state current (100μs pulse, 120pps)		I_{TP}	2	A
	Peak nonrepetitive surge current (PW = 10 ms, DC = 10%)		I_{TSM}	1.2	A
	Junction temperature		T_j	115	°C
Storage temperature range			T_{stg}	−55~125	°C
Operating temperature range			T_{opr}	−40~100	°C
Lead soldering temperature (10s)			T_{sol}	260	°C
Isolation voltage (AC, 1 min., R.H.≤ 60%)			BV_S	4000	Vrms

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

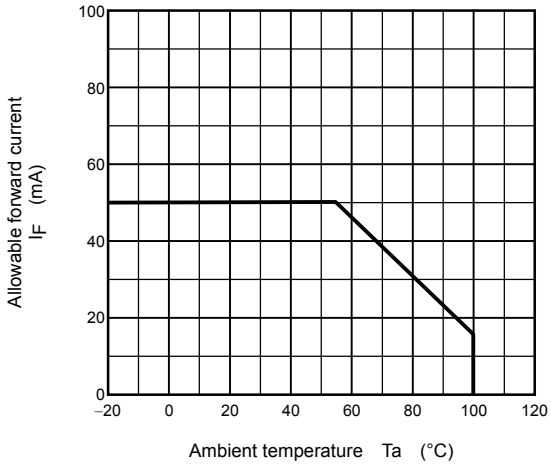
Individual Electrical Characteristics (Ta = 25°C)

Characteristic		Symbol	Test Condition	Min.	Typ.	Max.	Unit
LED	Forward voltage	V_F	I_F = 10 mA	1.0	1.15	1.3	V
	Reverse current	I_R	V_R = 5 V	—	—	10	μA
	Capacitance	C_T	V = 0, f = 1 MHz	—	30	—	pF
Detector	Peak off−state current	I_{DRM}	V_{DRM} = 600 V	—	10	1000	nA
	Peak on−state voltage	V_{TM}	I_{TM} = 100 mA	—	1.7	3.0	V
	Holding current	I_H	—	—	0.6	—	mA
	Critical rate of rise of off−state voltage	dv / dt	Vin = 240 V, Ta = 85°C	—	500	—	V/μs
	Critical rate of rise of commutating voltage	dv / dt (c)	I_T = 15 mA Vin = 60Vrms	—	0.2	—	V/μs

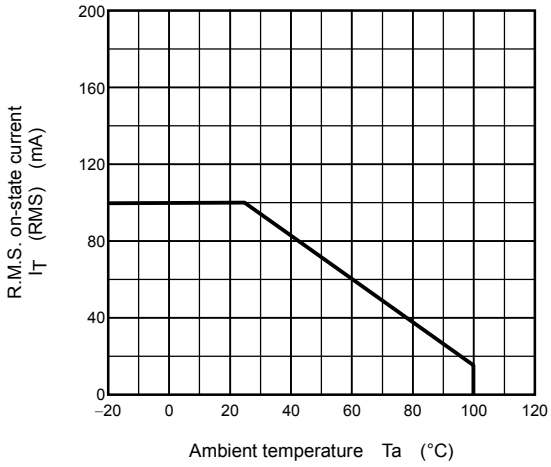
Coupled Electrical Characteristics (Ta = 25°C)

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Trigger LED current	I_{FT}	V_T = 6 V	—	—	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 = 1 MHz	—	0.8	—	pF
Isolation resistance	R_S	V_S = 500 V	1×10^{12}	10^{14}	—	Ω
Isolation voltage	BV_S	AC, 1 minute	4000	—	—	Vrms
		AC, 1 second, in oil	—	10000	—	
		DC, 1 minute, in oil	—	10000	—	V_{dc}

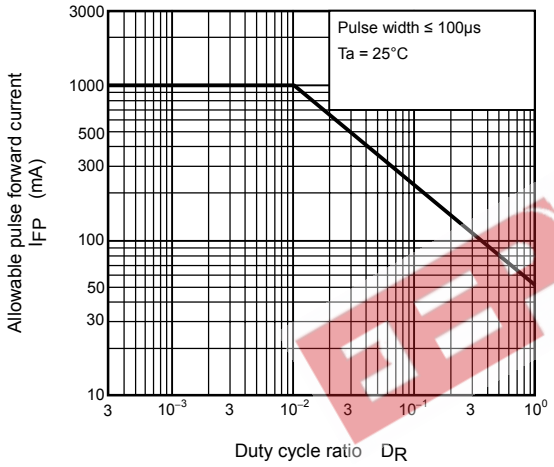
I_F – Ta



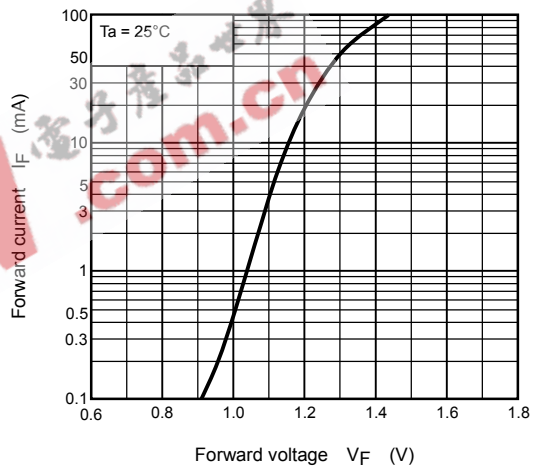
$I_{T\ (RMS)}$ – Ta



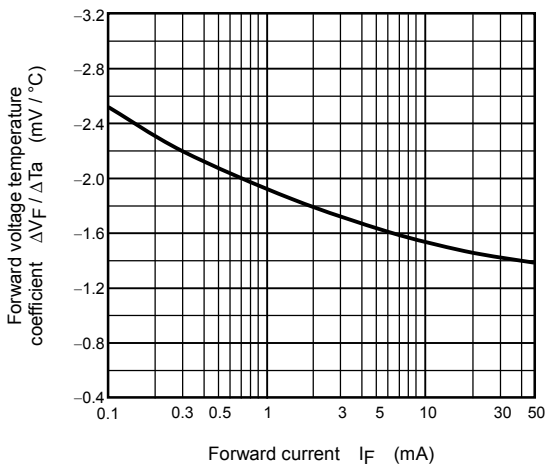
I_{FP} – D_R



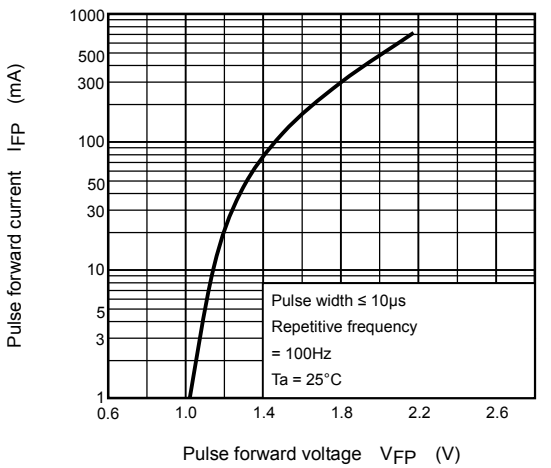
I_F – V_F



$\Delta V_F / \Delta Ta$ – I_F



I_{FP} – V_{FP}



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