

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.

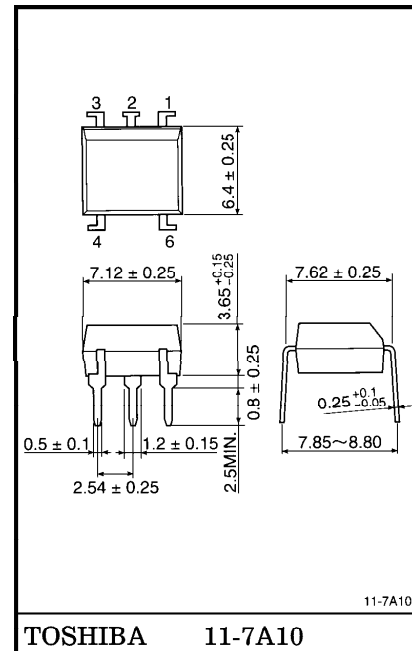
- Peak Off-State Voltage : 600V (MIN.)
- Trigger LED Current : 10mA (MAX.)
- On-State Current : 100mA (MAX.)
- Isolation Voltage : 4000Vrms (MIN.)
- UL Recognized : UL1577, File No. E67349
- BSI Approved : BS EN60065 : 1994,
Certificate No. 7831
BS EN60065 : 1992,
Certificate No. 7832
- SEMKO Approved : SS-EN60065 (EN60065, 1993)
SS-EN60950 (EN60950, 1992)
SS-EN60335 (EN60335, 1988)
Certificate No. 9522145
- Option (D4) type
VDE Approved : DIN VDE 0884, 06. 92
Certificate No. 91803
Maximum Operating Insulation Voltage : 890V_{PK}
Highest Permissible Over Voltage : 6000V_{PK}

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

7.62mm pich TLP763J type	10.16mm pich TLP763JF type
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- | | | |
|------------------------|----------------|--------------|
| • 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.) |

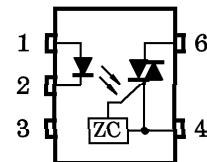
Unit in mm



TOSHIBA 11-7A10

Weight : 0.42g

PIN CONFIGURATION (TOP VIEW)



1 : ANODE
2 : CATHODE
3 : NC
4 : TRIAC 1
6 : TRIAC 2

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● TOSHIBA is continually working to improve the quality and the reliability of its products. Nevertheless, semiconductor devices in general can malfunction or fail due to their inherent electrical sensitivity and vulnerability to physical stress. It is the responsibility of the buyer, when utilizing TOSHIBA products, to observe standards of safety, and to avoid situations in which a malfunction or failure of a TOSHIBA product could cause loss of human life, bodily injury or damage to property. In developing your designs, please ensure that TOSHIBA products are used within specified operating ranges as set forth in the most recent products specifications. Also, please keep in mind the precautions and conditions set forth in the TOSHIBA Semiconductor Reliability Handbook.

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 (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	I _T (RMS)	100	mA
			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 = 10ms, 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	V _{rms}

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

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- Gallium arsenide (GaAs) is a substance used in the products described in this document. GaAs dust and fumes are toxic. Do not break, cut or pulverize the product, or use chemicals to dissolve them. When disposing of the products, follow the appropriate regulations. Do not dispose of the products with other industrial waste or with domestic garbage.
- The products described in this document are subject to foreign exchange and foreign trade control laws.
- The information contained herein is presented only as a guide for the applications of our products. No responsibility is assumed by TOSHIBA CORPORATION for any infringements of intellectual property or other rights of the third parties which may result from its use. No license is granted by implication or otherwise under any intellectual property or other rights of TOSHIBA CORPORATION or others.
- The information contained herein is subject to change without notice.

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	μA
	Capacitance	C_T	$V = 0, f = 1\text{MHz}$	—	30	—	pF
DETECTOR	Peak Off-State Current	I_{DRM}	$V_{\text{DRM}} = 600\text{V}$	—	10	1000	nA
	Peak On-State Voltage	V_{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	—	$\text{V} / \mu\text{s}$
	Critical Rate of Rise of Commutating Voltage	$dv/dt (C)$	$I_T = 15\text{mA}$ $V_{\text{in}} = 60\text{Vrms}$	—	0.2	—	$\text{V} / \mu\text{s}$

COUPLED ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Trigger LED Current	I_{FT}	$V_T = 6\text{V}$	—	—	10	mA
Inhibit Voltage	V_{IH}	$I_F = \text{Rated } I_{\text{FT}}$	—	—	50	V
Leakage in Inhibited State	I_{IH}	$I_F = \text{Rated } I_{\text{FT}}$ $V_T = \text{Rated } V_{\text{DRM}}$	—	200	600	μA
Capacitance (Input to Output)	C_S	$V_S = 0, f = 1\text{MHz}$	—	0.8	—	pF
Isolation Resistance	R_S	$V_S = 500\text{V}$	1×10^{12}	10^{14}	—	Ω
Isolation Voltage	BV_S	AC, 1 minute	4000	—	—	V_{rms}
		AC, 1 second, in oil	—	10000	—	
		DC, 1 minute, in oil	—	10000	—	V_{dc}

