

TOSHIBA PHOTOCOUPLER GaAlAs IRED & PHOTO-TRIAC

TLP3064(S)

OFFICE MACHINE
HOUSEHOLD USE EQUIPMENT
TRIAC DRIVER
SOLID STATE RELAY

The TOSHIBA TLP3064(S) consists of a zero voltage crossing turn-on photo-triac optically coupled to a GaAlAs infrared emitting diode in a six lead plastic DIP package.

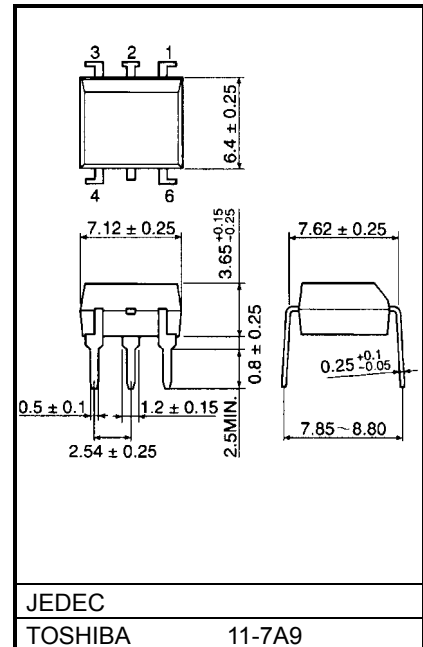
- Peak Off-State Voltage : 600V(Min)
- Trigger LED Current : 3mA(Max)
- On-State Current : 100mA(Max)
- Isolation Voltage : 5000Vrms(Min)
- UL Recognized : UL1577,File No.E67349
- SEMKO Approved : SS EN60065
SS EN60950, File No.9841113
- BSI Approved : BS EN60065, File No.8385
BS EN60950, File No.8386
- Option (D4) type
VDE approved: DIN EN60747-5-2
Approved No. 40009302
Maximum operating insulation voltage: 890V_{PK}
Highest permissible over voltage: 8000V_{PK}

(Note):When a EN60747-5-2 approved type is needed, please designate the "Option (D4)"

Construction Mechanical Rating

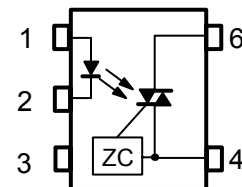
	7.62 mm pich Standard Type	10.16 mm pich TLPxxxxF Type
Creepage Distance	7.0 mm (Min)	8.0 mm (Min)
Clearance	7.0 mm (Min)	8.0 mm (Min)
Insulation Thickness	0.5 mm (Min)	0.5 mm (Min)

Unit: in mm



Weight: 0.39 g

Pin Configuration (top view)



- 1: Anode
- 2: Cathode
- 3: N.C.
- 4: Terminal 1
- 6: Terminal 2

ZC:Zero-cross Circuit

MAXIMUM RATINGS(Ta=25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT	
LED	Forward Current	I _F	30	mA	
	Forward Current Derating (Ta≥25°C)	ΔI _F /°C	-0.3	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	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=10ms,DC=10%)	I _{TSM}	1.2	A	
	Junction Temperature	T _j	115	°C	
Storage Temperature Range	T _{stg}	-55~150	°C		
Operating Temperature Range	T _{opr}	-40~100	°C		
Lead Soldering Temperature (10s)	T _{sol}	260	°C		
Isolation Voltage (AC,1min. , R.H.≤60%)	(Note 2) BV _S	5000	Vrms		

(Note 2) Device considered a two terminal device: Pins 1, 2 and 3 shorted together and pin 4 and pin 6 shorted together.

RECOMMENDED OPERATING CONDITIONS

CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT
Supply Voltage	V _{AC}	—	—	240	V _{ac}
Forward Current	I _F	4.5	6	7.5	mA
Peak On-State Current	I _{TP}	—	—	1	A
Operating Temperature	T _{opr}	-10	—	85	°C

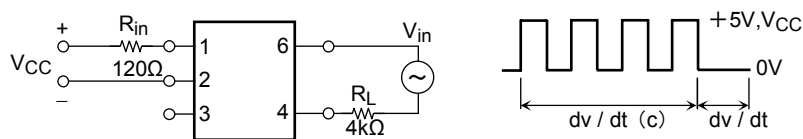
INDIVIDUAL ELECTRICAL CHARACTERISTICS(Ta=25°C)

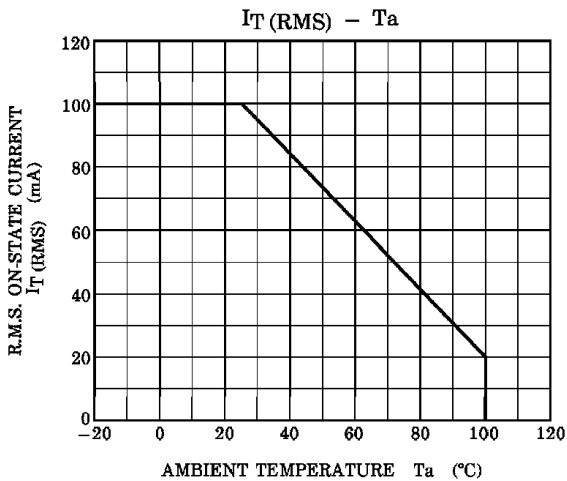
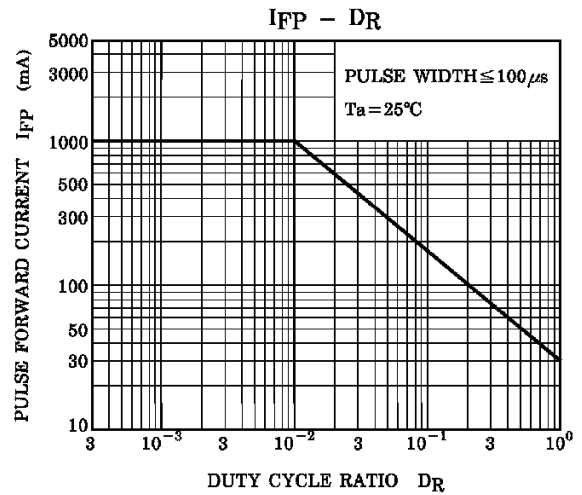
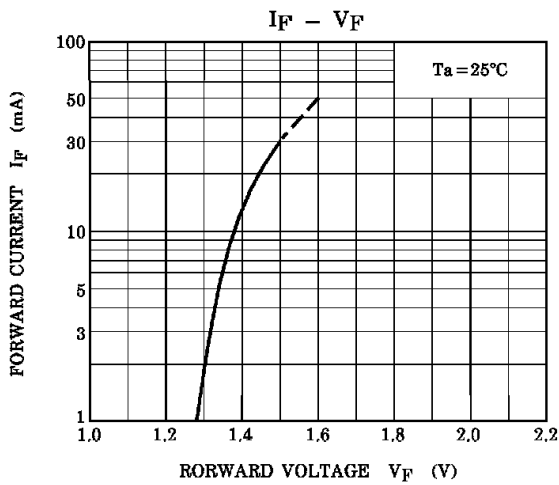
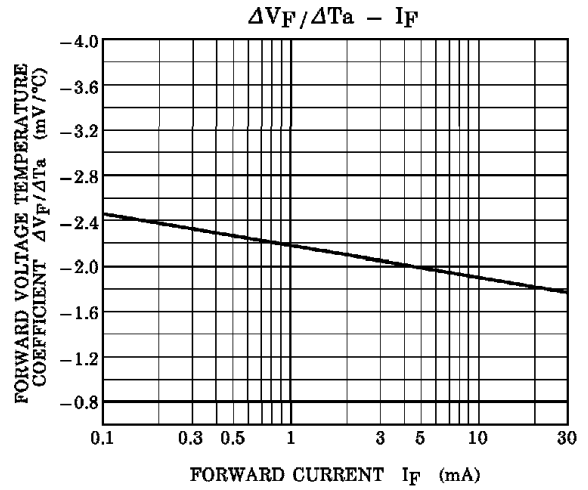
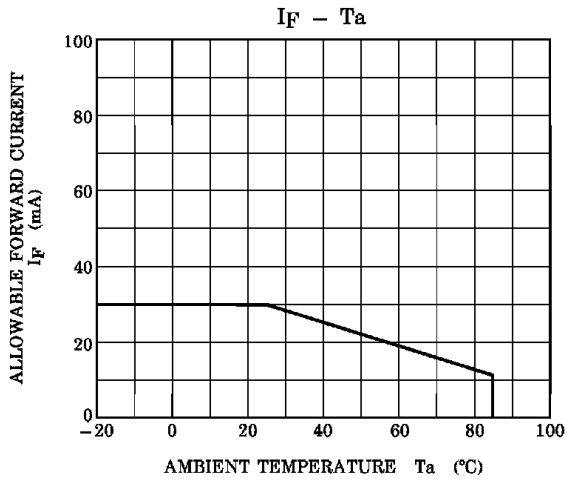
CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
LED	Forward Voltage	V_F	$I_F = 10 \text{ mA}$	1.2	1.4	1.7	V
	Reverse Current	I_R	$V_R = 3 \text{ V}$	—	—	10	μA
	Capacitance	C_T	$V = 0, f=1\text{MHz}$	—	30	—	pF
DETECTOR	Peak Off-State Current	I_{DRM}	$V_{DRM}=600\text{V}$	—	10	1000	nA
	Peak On-State Voltage	V_{TM}	$I_{TM}=100\text{mA}$	—	—	3.0	V
	Holding Current	I_H	—	—	0.6	—	mA
	Critical Rate of Rise of Off-State Voltage	dv/dt	$V_{in}=240\text{Vrms}, Ta=85^\circ\text{C}$ (Fig.1)	200	500	—	$\text{V}/\mu\text{s}$
	Critical Rate of Rise of Commutating Voltage	$dv/dt(c)$	$V_{in}=60\text{Vrms}, I_T=15\text{mA}$ (Fig.1)	—	0.2	—	$\text{V}/\mu\text{s}$

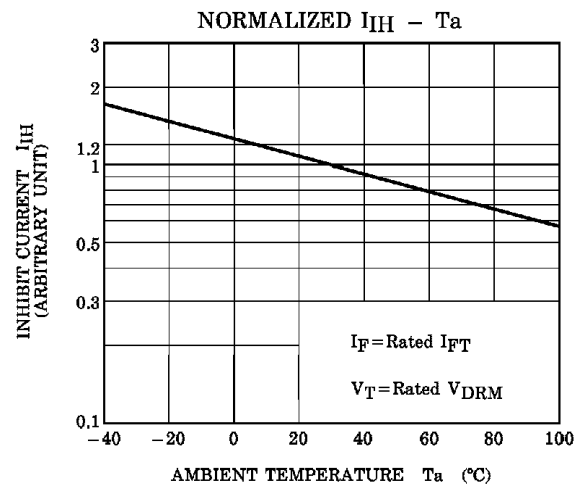
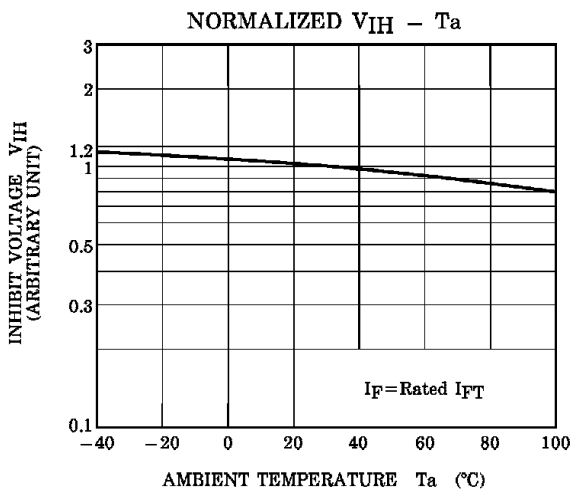
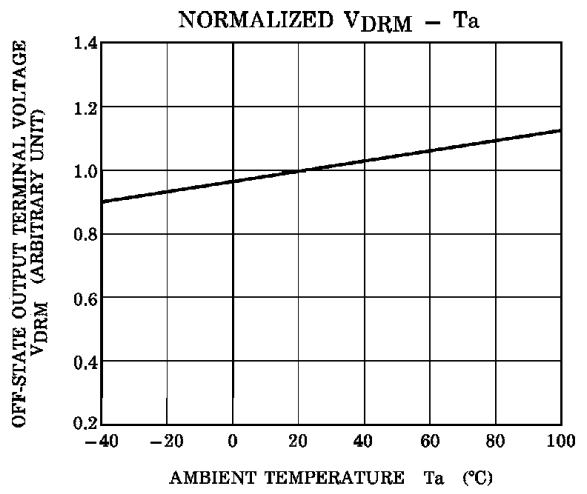
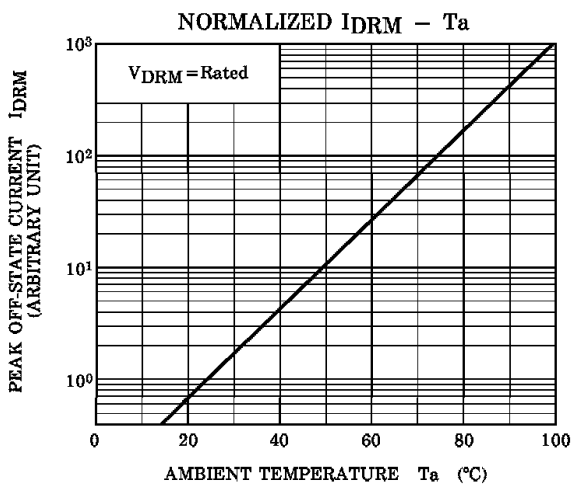
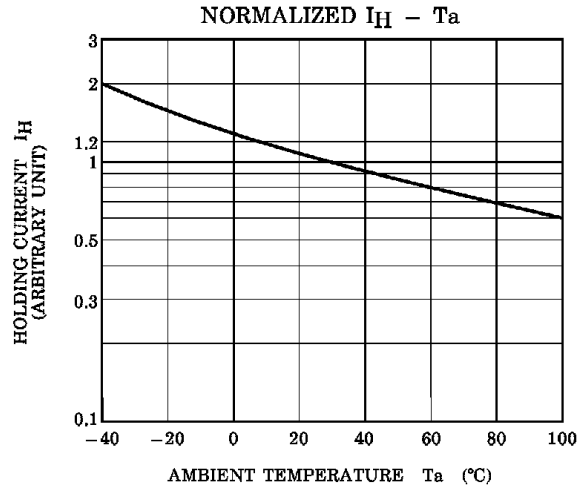
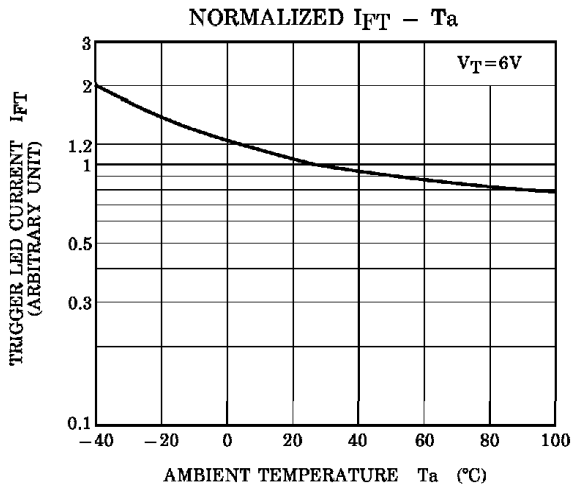
COUPLED ELECTRICAL CHARACTERISTICS(Ta=25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Trigger LED Current	I_{FT}	$V_T=6\text{V}$, Resistive Load	—	—	3	mA
Inhibit Voltage	V_{IH}	$I_F=\text{Rated } I_{FT}$	—	—	50	V
Leakage in Inhibited State	I_{IH}	$I_F=\text{Rated } I_{FT}, V_T=\text{Rated } V_{DRM}$	—	—	600	μA
Capacitance (Input to Output)	C_S	$V_S=0, f=1\text{MHz}$	—	0.8	—	pF
Isolation Resistance	R_S	$V_S=500\text{V}$, R.H. $\leq 60\%$	1×10^{12}	10^{14}	—	Ω
Isolation Voltage	BV_S	AC, 1minute	5000	—	—	Vrms
		AC, 1second,in oil	—	10000	—	
		DC, 1minute,in oil	—	10000	—	Vdc

Fig. 1 dv / dt test circuit







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