

TLP3526

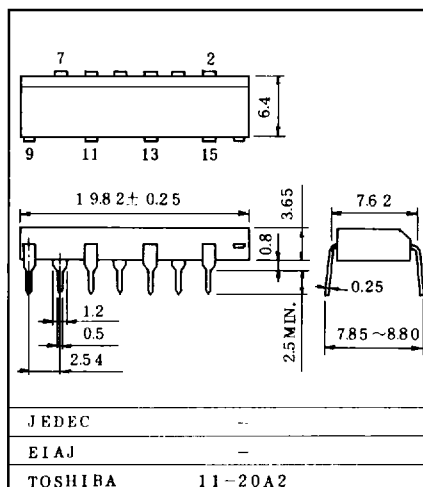
GaAs IRED & PHOTO-TRIAC

TRIAC DRIVER
PROGRAMMABLE CONTROLLERS
AC-OUTPUT MODULE
SOLID STATE RELAY

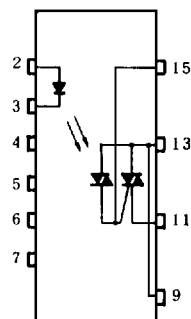
The TOSHIBA TLP3526 consists of a photo-triac optically coupled to a gallium arsenide infrared emitting diode in a 16 lead plastic DIP package.

- Peak Off-State Voltage : 600V Min.
- Trigger LED Current : 10mA Max.
- On-State Current : 1.0Arms Max.
- Isolation Voltage : 2500Vrms Min.

Unit in mm



PIN CONFIGURATION (TOP VIEW)



- 2 : ANODE
- 3 : CATHODE
- 4, 5, 6, 7 : NC
- 9, 13 : TRIAC T2
- 11 : TRIAC T1
- 15 : TRIAC GATE

MAXIMUM RATINGS (Ta=25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
LED	Forward Current	I_F	50	mA
	Forward Current Derating (Ta $\geq$ 53°C)	$\Delta I_F/^\circ\text{C}$	-0.7	mA/°C
	Peak Forward Current (100 μ s 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	$I_{T(RMS)}$	Ta=40°C 1.0	A
			Ta=60°C 0.7	
	On-State Current Derating (Ta $\geq$ 40°C)	$\Delta I_T/^\circ\text{C}$	-14.3	mA/°C
	Peak On-State Current (100 μ s pulse, 120pps)	I_{TP}	-	A
	Peak Nonrepetitive Surge Current (50Hz, Peak)	I_{TSM}	10	A
Junction Temperature		T_j	110	°C
Storage Temperature Range		T_{stg}	-40~125	°C
Operating Temperature Range		T_{opr}	-20~80	°C
Lead Soldering Temperature (10sec.)		T_{sold}	260	°C
Isolation Voltage (AC, 1 min., RH $\leq$ 60%)		BV_S	2500	Vrms

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}	$V_{DRM}=600\text{V}, T_a=110^\circ\text{C}$	-	-	100	μA
	Peak On-State Voltage	V_{TM}	$I_{TM}=1.5\text{A}$	-	-	3.0	V
	Holding Current	I_H	$R_L=100\Omega$	-	-	25	mA
	Critical Rate of Rise of Off-State Voltage	dv/dt	$V_{in}=240\text{V}_{rms}$ (Fig. 1)	-	500	-	V/ μs
	Critical Rate of Rise of Commutating Voltage	$dv/dt(c)$	$V_{in}=240\text{V}_{rms}, I_T=1.0\text{A}_{rms}$ (Fig. 1)	-	5	-	V/ μs

COUPLED ELECTRICAL CHARACTERISTICS (Ta=25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Trigger LED Current	I_{FT}	$V_T=6V$	-	-	10	mA
Capacitance (Input to Output)	C_S	$V_S=0, f=1MHz$	-	1.5	-	pF
Isolation Resistance	R_S	$V_S=500V$	5×10^{10}	1014	-	Ω
Isolation Voltage	BV_S	AC, 1 minute	2500	-	-	V_{rms}
		AC, 1 second	-	5000	-	
		DC, 1 minute	-	5000	-	Vdc

RECOMMENDED OPERATING CONDITIONS

CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT
Supply Voltage	V_{AC}	-	-	240	Vac
Forward Current	I_F	15	20	25	mA
Peak On-State Current	I_{TP}	-	-	-	A
Operating Temperature	T_{opr}	-20	-	80	°C

Fig.1 : dv/dt TEST CIRCUIT

