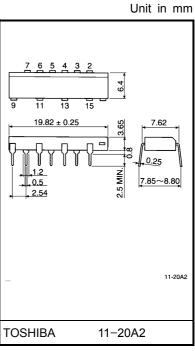
TOSHIBA Photocoupler GaAs Ired & Photo-Triac

TLP3526

Triac Driver
Programmable Controllers
AC-Output Module
Solid State Relay

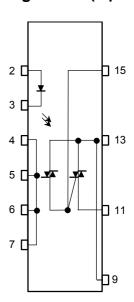
The TOSHIBA TLP3526 consists of a photo-triac optically coupled to a gallium arsenide infrared emitting diode in a 16 lead plastic DIP.

- Peak off-state voltage: 600V(min.)
- Trigger LED current: 10mA(max.)
- On-state current: 1.0A_{rms}(max.)
- Isolation voltage: 2500 V_{rms}(min.)
- UL recognized: UL1577, file no. E67349



Weight: 1.13 g

Pin Configuration (top view)



2 : Anode 3 : Cathode 4,5,6,7 : N.C. 9,13 : Triac T2 11 : Triac T1 15 : Triac gate

1

Maximum Ratings (Ta = 25°C)

Characteristic			Symbol	Rating	Unit	
	Forward current		l _F	50	mA	
Forward current Forward current derating (Ta ≥ 53°C) Peak forward current (100µs pulse, 100pps) Reverse voltage Junction temperature Off–state output terminal voltage On–state RMS current Ta = 40°C Ta = 60°C On–state current derating (Ta ≥ 40°C) Peak current from snubber circuit (100µs pulse, 120pps) Peak nonrepetitive surge current (50Hz, peak) Junction temperature Storage temperature range Operating temperature range	ΔI _F / °C	-0.7	mA / °C			
LED	Peak forward current (100µs p	current (100µs pulse, 100pps)		1	Α	
	Reverse voltage	V _R	5	V		
	Junction temperature	Tj	125	°C		
	Off-state output terminal voltage	V_{DRM}	600	V		
	On-state RMS current	Ta = 40°C	I=	1.0	Α	
_		Ta = 60°C	I _{T(RMS)}	0.7	_ ^	
ecto	On-state current derating (Ta	ΔI _T / °C	-14.3	mA / °C		
Det		I _{SP}	2	А		
	Peak nonrepetitive surge curre	I _{STM}	10	Α		
	Junction temperature	Tj	110	°C		
Storag	e temperature range		T _{stg}	-40~125	°C	
Operat	Operating temperature range		T _{opr}	-20~80	°C	
Lead s	ead soldering temperature (10 s)		T _{sol}	260	°C	
Isolatio	Isolation voltage (AC, 1min., R.H.≤ 60%) (Note)			2500	V _{rms}	

(Note 1) Device considered a two terminal: LED side pins shorted together and detector side pins shorted together.

2

Recommended Operating Conditions

Characteristic	Symbol	Min.	Тур.	Max.	Unit
Supply voltage	V _{AC}	_	_	240	V _{ac}
Forward current	I _F	15	20	25	mA
Peak current from snubber circuit	I _{SP}	_	_	1	Α
Operating temperature	T _{opr}	-20	_	80	°C

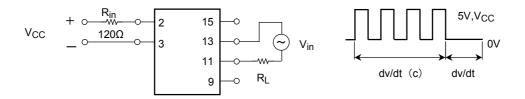
Individual Electrical Characteristics (Ta = 25°C)

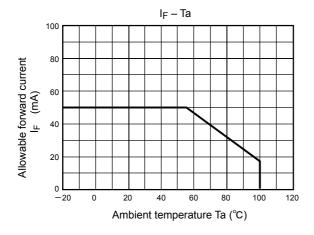
Characteristic		Symbol	Test Condition	Min.	Тур.	Max.	Unit
LED	Forward voltage	V _F	I _F = 10mA	1.0	1.15	1.3	V
	Reverse current	I _R	V _R = 5V	_	_	10	μA
	Capacitance	C _T	V = 0, f = 1MHz	_	30	_	pF
Detector	Peak off-state current	I _{DRM}	V _{DRM} = 600V, Ta = 110°C	_	_	100	μA
	Peak on-state voltage	V _{TM}	I _{TM} = 1.5A	_	_	3.0	V
	Holding current	lΗ	R _L = 100Ω	_	_	25	mA
	Critical rate of rise of off–state voltage	dv / dt	$V_{in} = 240V_{rms}$ (Fig.1)	_	500	_	V/µs
	Critical rate of rise of commutating voltage	dv / dt(c)	V_{in} = 240 V_{rms} , I_T = 1.0Arms (Fig.1)	_	5	_	V/µs

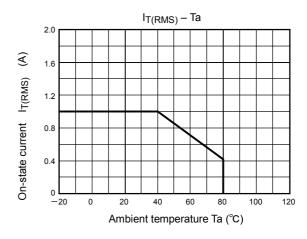
Coupled Electrical Characteristics (Ta = 25°C)

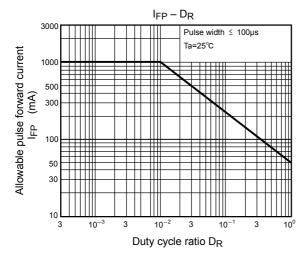
Characteristic	Symbol	Test Condition	Min.	Тур.	Max.	Unit
Trigger LED current	I _{FT}	V _T = 6V	_	_	10	mA
Capacitance (input to output)	C _S	V _S = 0, f = 1MHz	_	1.5	-	pF
Isolation resistance	R _S	V _S = 500V	5×10 ¹⁰	10 ¹⁴	_	Ω
	BV _S	AC, 1 minute	2500	_	_	V _{rms}
Isolation voltage		AC, 1 second, in oil	_	5000	_	
		DC, 1 minute, in oil	_	5000	_	V _{dc}

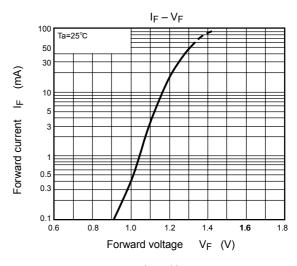
Fig.1: dv / dt test circuit

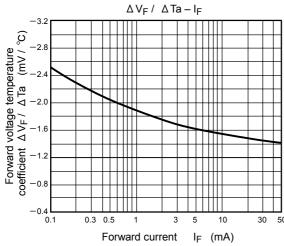


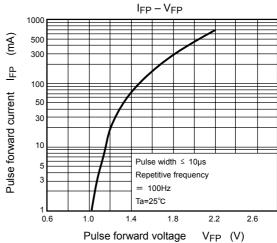


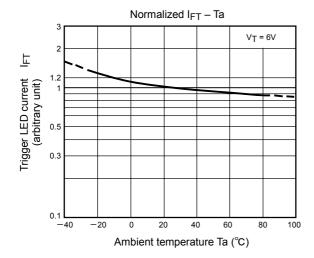


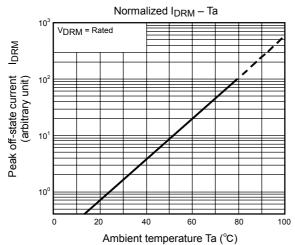


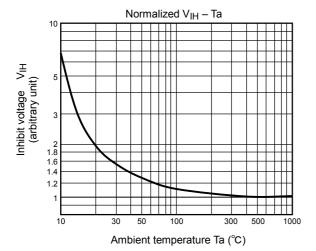


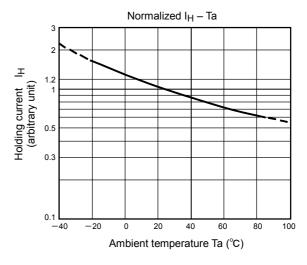


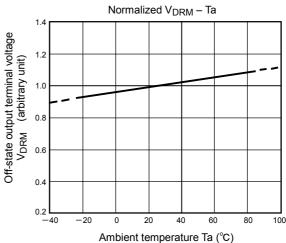












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