

TLP561G

Unit in mm

TRIAC DRIVER
PROGRAMMABLE CONTROLLERS
AC-OUTPUT MODULE
SOLID STATE RELAY

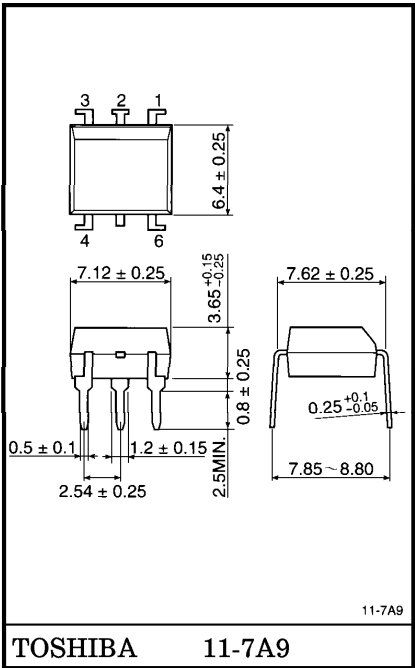
The TOSHIBA TLP561G consists of a zero voltage crossing turn-on photo-triac optically coupled to a gallium arsenide infrared emitting diode in a six lead plastic DIP package.

- Peak Off-State Voltage : 400V (MIN.)
- On-State Current : 100mA (MAX.)
- Isolation Voltage : 2500V_{rms} (MIN.)
- UL Recognized : File No. E67349
- Isolation Operating Voltage : 2500V_{ac} or 300V_{dc} for Isolation Groupe C*1
- Trigger LED Current

CLASSI- FICATION*	TRIGGER LED CURRENT (mA)		MARKING OF CLASSIFICATION
	V _T =6V, Ta=25°C		
	MIN.	MAX.	
(IFT5)	—	5	T5
(IFT7)	—	7	T5, T7
Standard	—	10	T5, T7, Blank

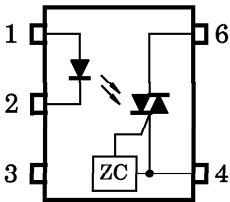
*Ex. (IFT5) ; TLP561G (IFT5)
(Note) Application type name for certification test, please use standard product type name, i.e.
TLP561G (IFT5) : TLP561G

*1 : According to VDE0110, table 4.



Weight : 0.39g

PIN CONFIGURATION (TOP VIEW)



- 1 : ANODE
- 2 : CATHODE
- 3 : N.C.
- 4 : TERMINAL 1
- 6 : TERMINAL 2

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}	400	V
	On-State RMS Current	I_T (RMS)	100	mA
			50	
	On-State Current Derating (Ta \geq 25°C)	$\Delta I_T / ^\circ\text{C}$	-1.1	mA / °C
	Peak On-State Current (100 μ s 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. \leq 60%)		BV_S	2500	V_{rms}

RECOMMENDED OPERATING CONDITIONS

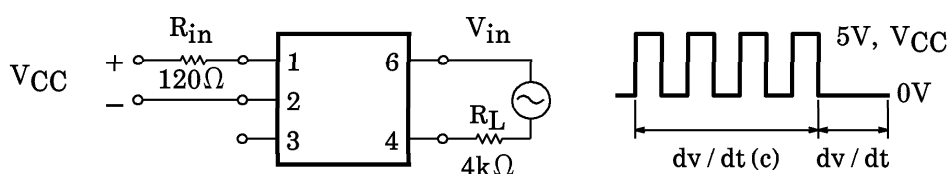
CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT
Supply Voltage	V_{AC}	—	—	120	V_{ac}
Forward Current	I_F	15	20	25	mA
Peak On-State Current	I_{TP}	—	—	1	A
Operating Temperature	T_{opr}	-25	—	85	°C

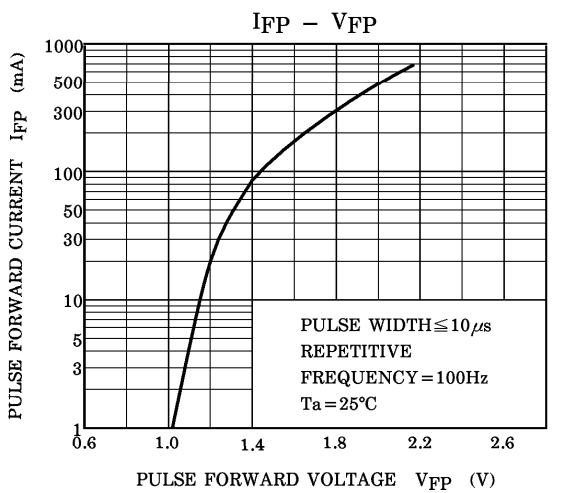
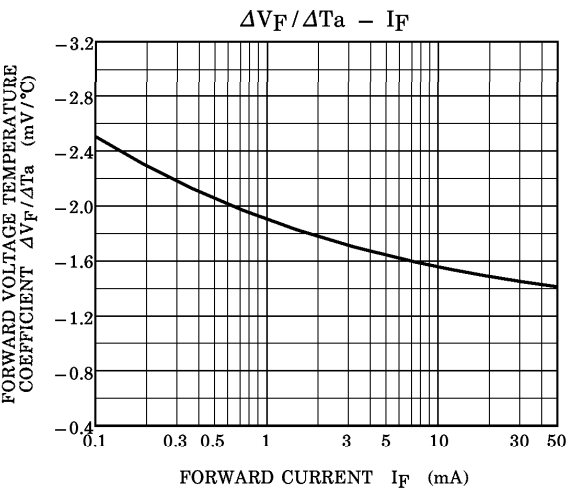
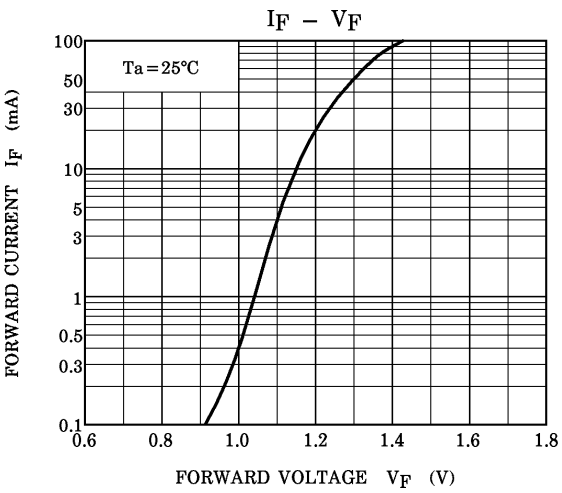
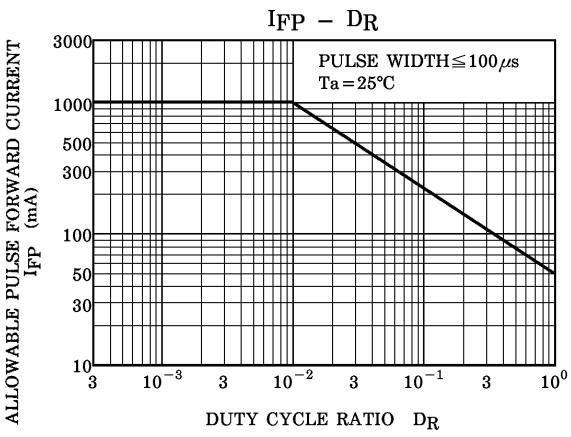
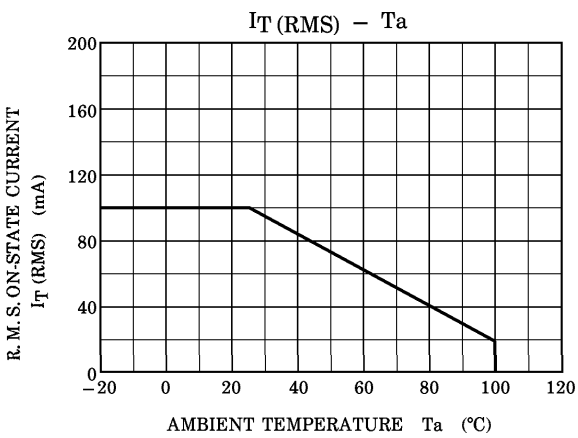
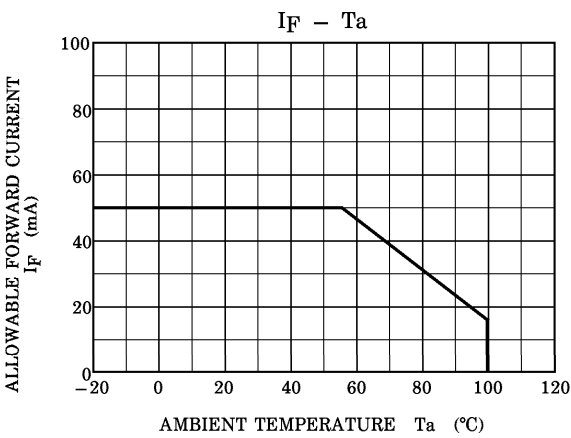
INDIVIDUAL ELECTRICAL CHARACTERISTICS (Ta = 25°C)

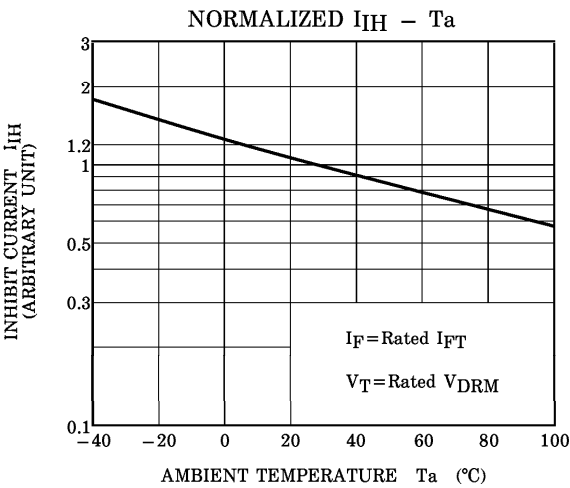
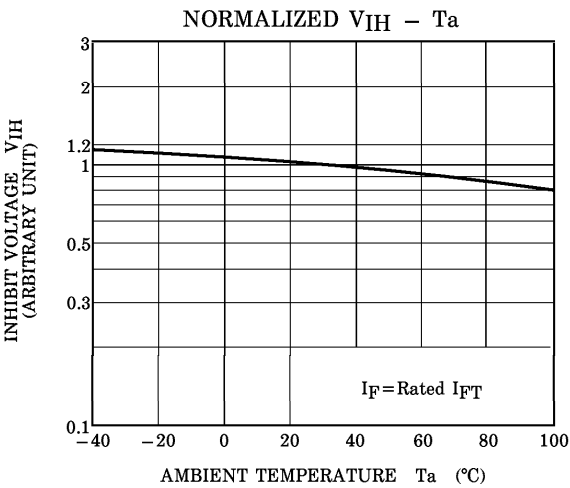
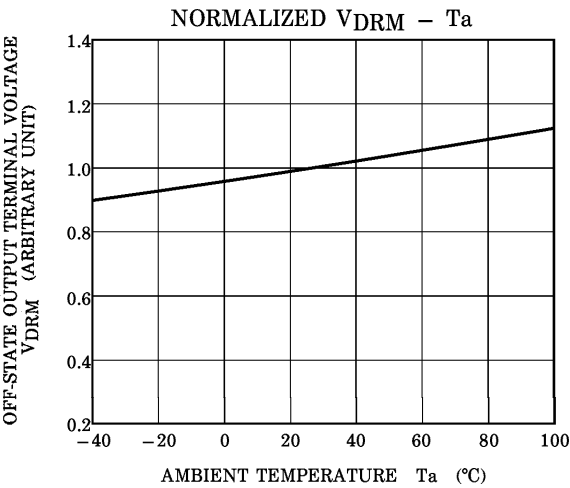
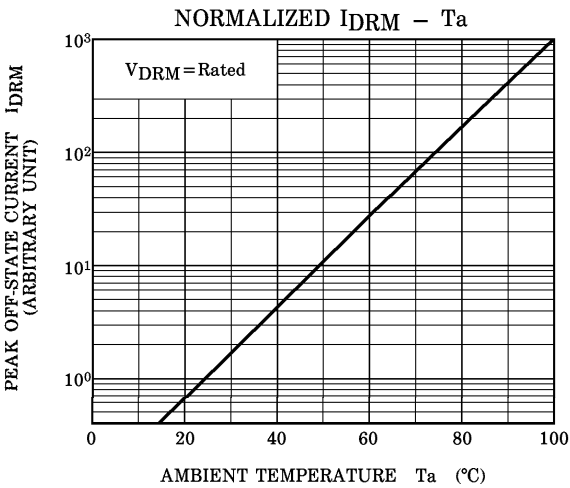
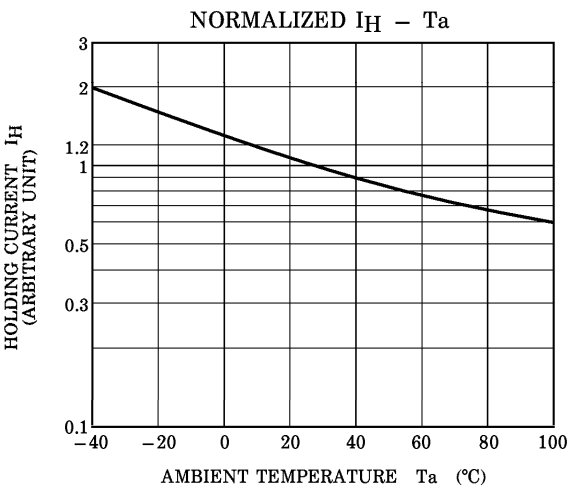
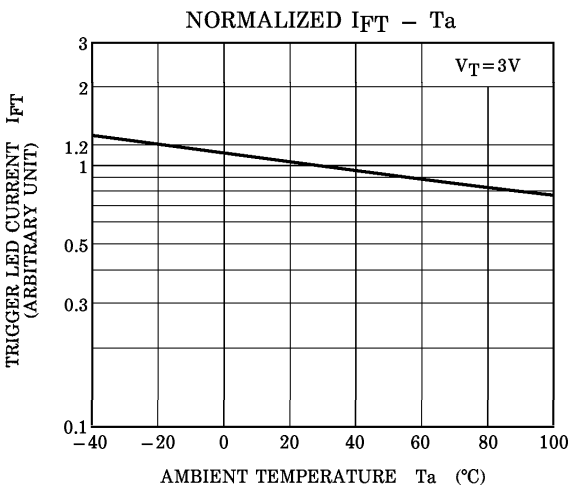
CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
LED	Forward Voltage	V_F	$I_F = 10\text{mA}$	1.0	1.15	1.3	V
	Reverse Current	I_R	$V_R = 5\text{V}$	—	—	10	μA
	Capacitance	C_T	$V = 0, f = 1\text{MHz}$	—	30	—	pF
DETECTOR	Peak Off-State Current	I_{DRM}	$V_{\text{DRM}} = 400\text{V}$	—	10	100	nA
	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	$V_{\text{in}} = 120\text{V}_{\text{rms}}, T_a = 85^\circ\text{C}$ (Fig.1)	200	500	—	$\text{V} / \mu\text{s}$
	Critical Rate of Rise of Commutating Voltage	$dv/dt(c)$	$V_{\text{in}} = 30\text{V}_{\text{rms}}, I_T = 15\text{mA}$ (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}	$V_T = 3\text{V}, R_L = 100\Omega$	—	5	10	mA
Inhibit Voltage	V_{IH}	$I_F = \text{Rated } I_{\text{FT}}$	—	—	40	V
Leakage in Inhibited State	I_{IH}	$I_F = \text{Rated } I_{\text{FT}}$ $V_T = \text{Rated } V_{\text{DRM}}$	—	100	300	μA
Capacitance (Input to Output)	C_S	$V_S = 0, f = 1\text{MHz}$	—	0.8	—	pF
Isolation Resistance	R_S	$V_S = 500\text{V}$	5×10^{10}	10^{14}	—	Ω
Isolation Voltage	BV_S	AC, 1 minute	2500	—	—	V_{rms}
		AC, 1 second, in oil	—	5000	—	
		DC, 1 minute, in oil	—	5000	—	V_{dc}

Fig.1 : dv/dt TEST CIRCUIT





RESTRICTIONS ON PRODUCT USE

000707EBC

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