

TOSHIBA Photocoupler GaAs Ired & Photo-Transistor

TLP626,TLP626-2,TLP626-4

Programmable Controllers

AC / DC-Input Module

Telecommunication

The TOSHIBA TLP626, -2 and -4 consist of gallium arsenide infrared emitting diodes connected

Absolute Maximum Ratings (Ta = 25°C)

Characteristic	Symbol	Rating		Unit
		TLP626	TLP626-2 TLP626-4	
Forward current	I_F	60	50	mA
Forward current derating	$I_F / ^\circ\text{C}$	$-0.7(T_a - 39^\circ\text{C})$	$-0.5(T_a - 39^\circ\text{C})$	mA / °C
Pulse forward current	I_{FP}	1(100 μ s pulse,100pps)		A
Power dissipation (1 circuit)	P_D	100	70	mW
Power dissipation derating (Ta = 25°C, 1 circuit)	$P_D / ^\circ\text{C}$	-1.0	-0.7	mW / °C
Junction temperature	T_j	125		°C
Collector-emitter voltage	V_{CEO}	55		V
Emitter-collector voltage	V_{ECO}	7		V
Collector current	I_C	50		mA

Individual Electrical Characteristics (Ta = 25°C)

Characteristic		Symbol	Test Condition	Min.	Typ.	Max.	Unit
LED	Forward voltage	V_F	$I_F = \pm 10\text{mA}$	1.0	1.15	1.3	V
	Reverse current	I_R	$V_F = \pm 0.7\text{V}$		2.5	20	μA
	Capacitance	C_T	$V = 0, f = 1\text{MHz}$		60		pF
Detector	Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 0.5\text{mA}$	55			V
	Emitter-collector breakdown voltage	$V_{(BR)ECO}$	$I_E = 0.1\text{mA}$	7			V
	Collector dark current	I_{CEO}	$V_{CE} = 24\text{V}$		10	10	nA
			$V_{CE} = 24\text{V}, T_a = 85^\circ\text{C}$		2	50	μA
Capacitance collector to emitter	C_{CE}	$V=0, f=1\text{MHz}$		12		pF	

Coupled Electrical Characteristics (Ta = 25°C)

Isolation Characteristics (Ta = 25°C)

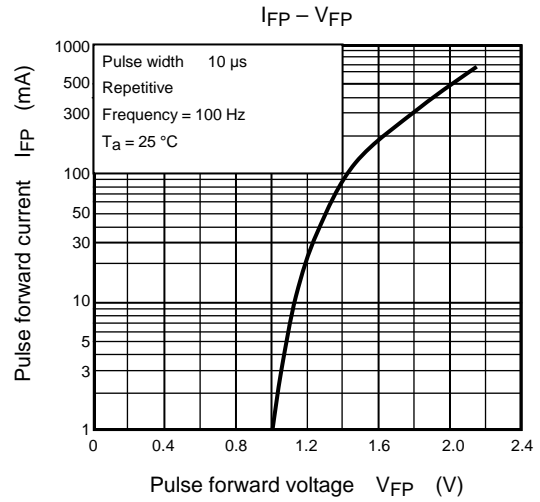
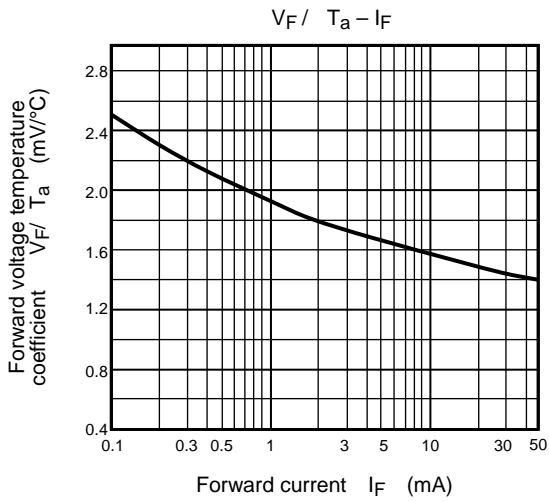
Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Capacitance input to output	C _S	V _S = 0, f = 1MHz		0.8		pF
Isolation resistance	R _S	V _S = 500V	5×10 ¹⁰	10 ¹⁴		
Isolation voltage	BV _S	AC, 1 minute	5000			Vrms
		AC, 1 second, in oil		10000		
		DC, 1 minute, in oil		10000		Vdc

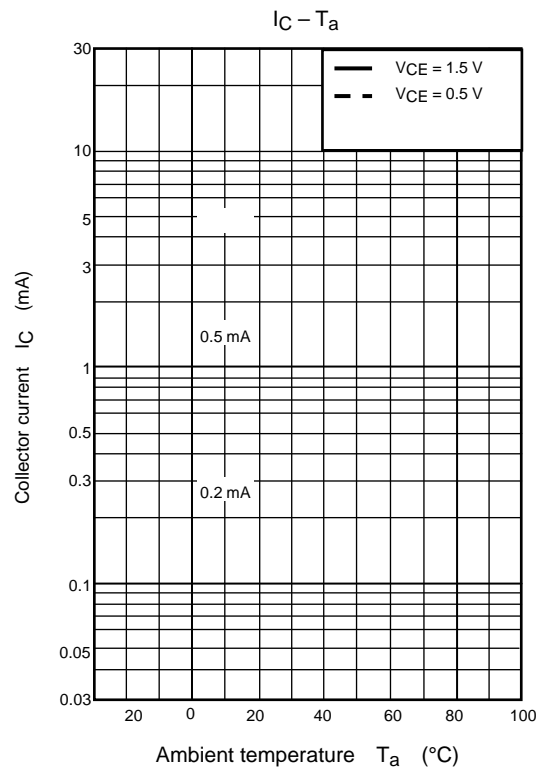
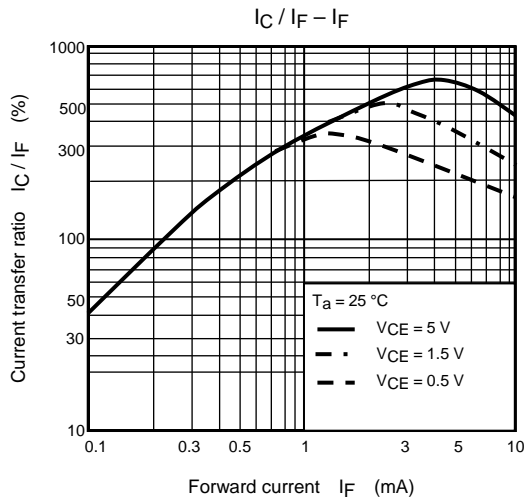
Switching Characteristics (Ta = 25°C)

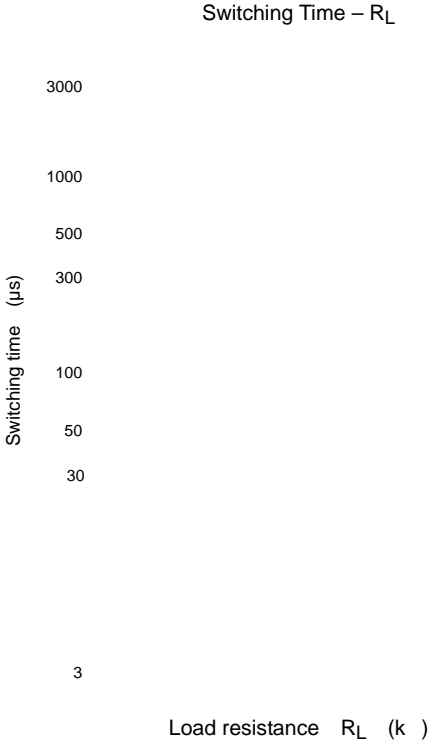
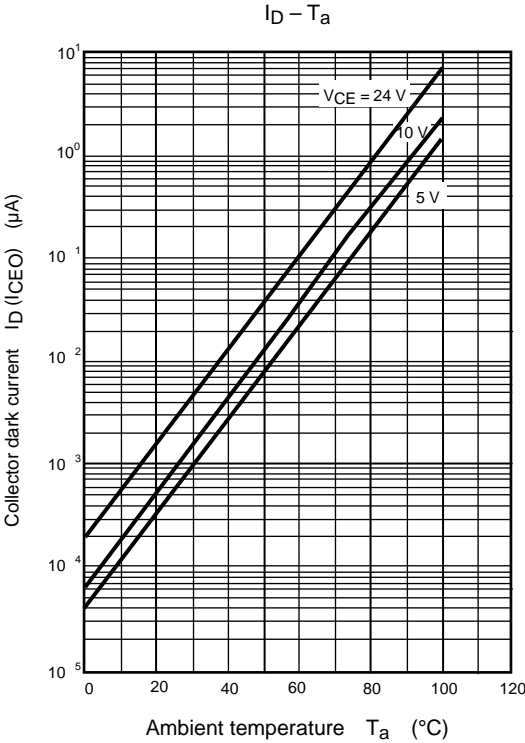
I_F

Allowable forward current
 I_F (RMS) (mA)

120







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