

TOSHIBA Photocoupler Photorelay

TLP4206G

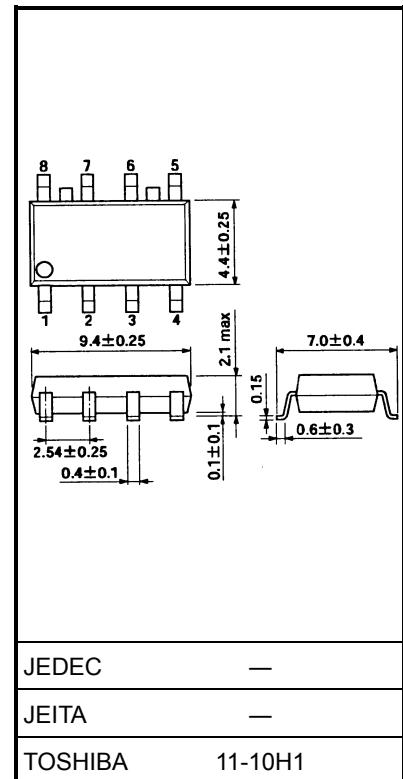
PBX

Telecommunication

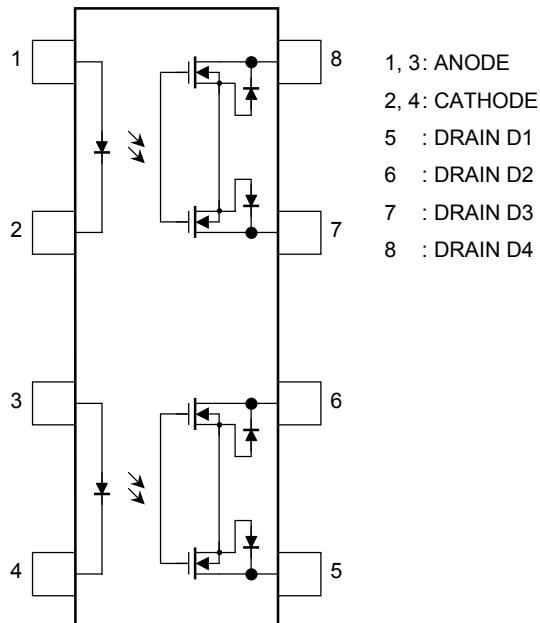
Modem·FAX Cards, Modems In PC

Measurement Instrumentation

Unit: mm



Weight: 0.2 g (typ.)



Maximum Ratings (Ta = 25°C)

Characteristics		Symbol	Rating	Unit
LED	Forward current	I _F	50	mA
	Forward current derating (Ta ≥ 25°C)	ΔI _F /°C	-0.5	mA/°C
	Peak forward current (100 µs pulse, 100 pps)	I _{FP}	1	A
	Reverse voltage	V _R	5	V
Detector	Junction temperature	T _j	125	°C
	Off-state output terminal voltage	V _{OFF}	350	V
	On-state current	I _{ON}	120	mA
	On-state current derating (Ta ≥ 25°C)	ΔI _{ON} /°C	-1.2	mA/°C
	Junction temperature	T _j	125	°C
	Operating temperature range	T _{opr}	-40 to 85	°C
	Storage temperature range	T _{stg}	-55 to 125	°C
	Lead soldering temperature (10 s)	T _{sol}	260	°C
Isolation voltage (AC, 1 min, R.H. ≤ 60%) (Note 1)		BV _S	1500	Vrms

Note 1: Device considered a two-terminal device: LED side pins shorted together, and DETECTOR side pins shorted together.

Recommended Operating Conditions

Characteristics	Symbol	Min	Typ.	Max	Unit
Supply voltage	V _{DD}	—	—	280	V
Forward current	I _F	5	—	25	mA
On-state current	I _{ON}	—	—	120	mA
Operating temperature	T _{opr}	-20	—	65	°C

Individual Electrical Characteristics (Ta = 25°C)

Characteristics		Symbol	Test Condition	Min	Typ.	Max	Unit
LED	Forward voltage	V _F	I _F = 10 mA	1.0	1.15	1.3	V
	Reverse current	I _R	V _R = 5 V	—	—	10	µA
	Capacitance	C _T	V = 0, f = 1 MHz	—	30	—	pF
Detector	Off-state current	I _{OFF}	V _{OFF} = 350 V, I _F = 5 mA	—	—	1	µA
	Capacitance	C _{OFF}	V = 0, f = 1 MHz, I _F = 5 mA	—	65	—	pF

Coupled Electrical Characteristics (Ta = 25°C)

Characteristics		Symbol	Test Condition	Min	Typ.	Max	Unit
Trigger LED current	I _{FC}	I _{OFF}	= 10 µA	—	1	3	mA
Return LED current	I _{FT}	I _{ON}	= 120 mA	0.1	—	—	mA
On-state resistance	R _{ON}	I _{ON}	= 120 mA	—	15	25	Ω

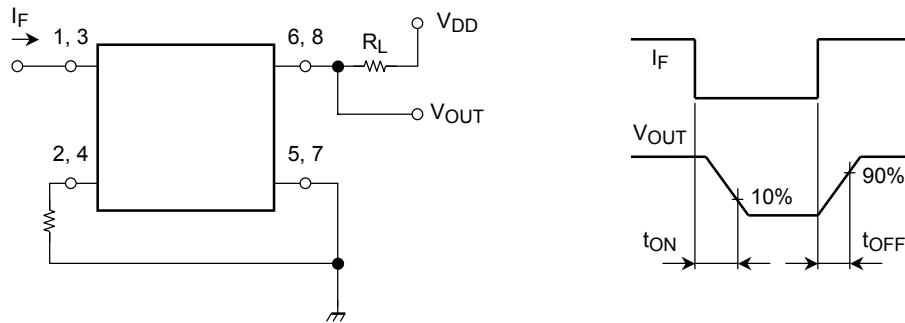
Isolation Characteristics (Ta = 25°C)

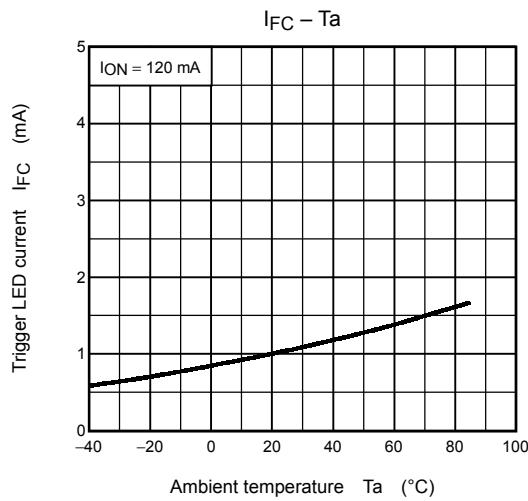
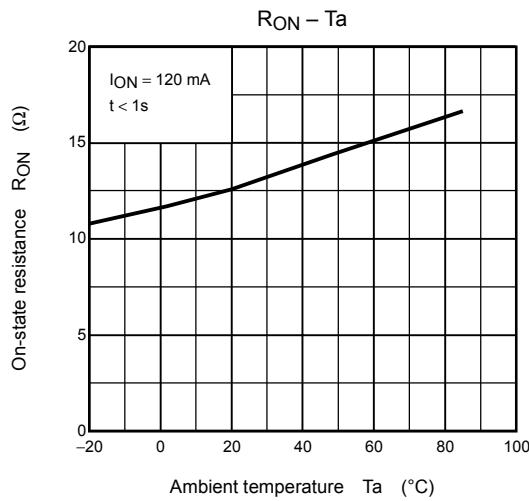
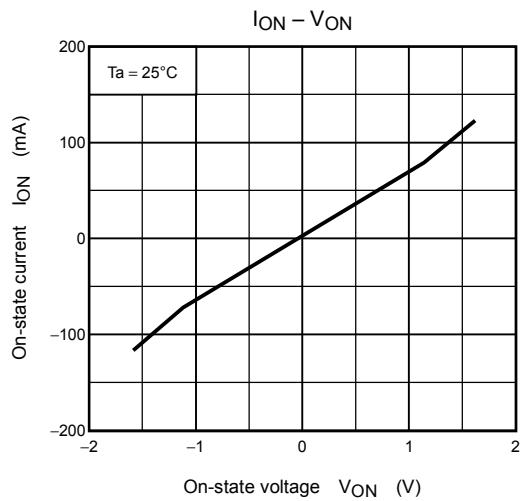
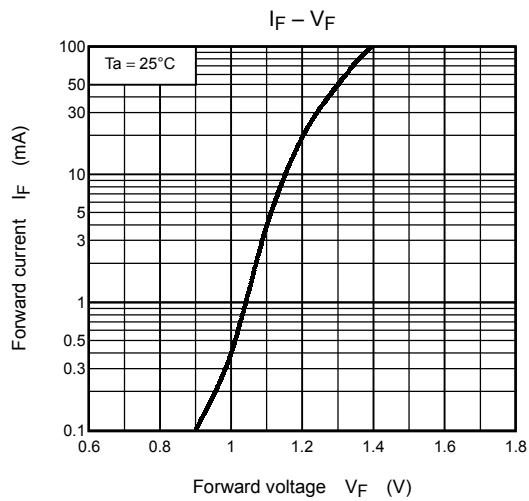
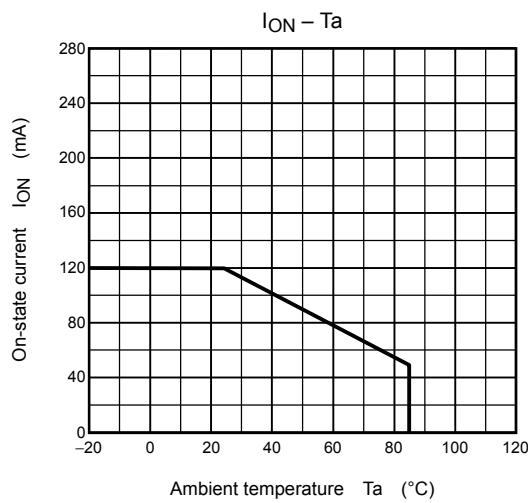
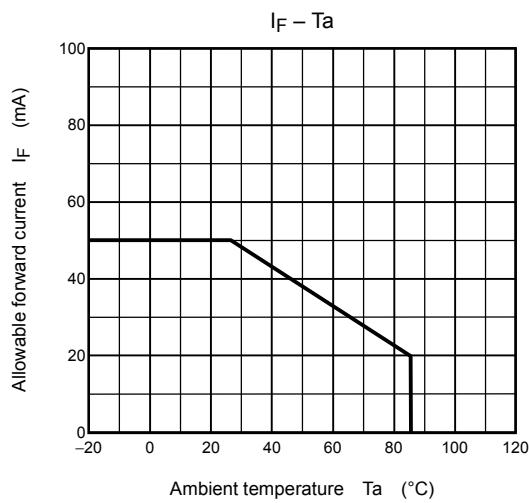
Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Capacitance input to output	C _S	V _S = 0, f = 1 MHz	—	0.8	—	pF
Isolation resistance	R _S	V _S = 500 V, R.H. \leq 60%	5×10^{10}	10^{14}	—	Ω
Isolation voltage	BVs	AC, 1 min	1500	—	—	V _{rms}
		AC, 1 s, in oil	—	3000	—	
		DC, 1 min, in oil	—	3000	—	V _{dc}

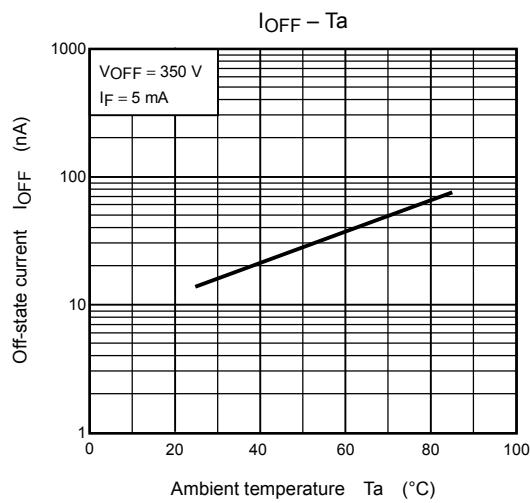
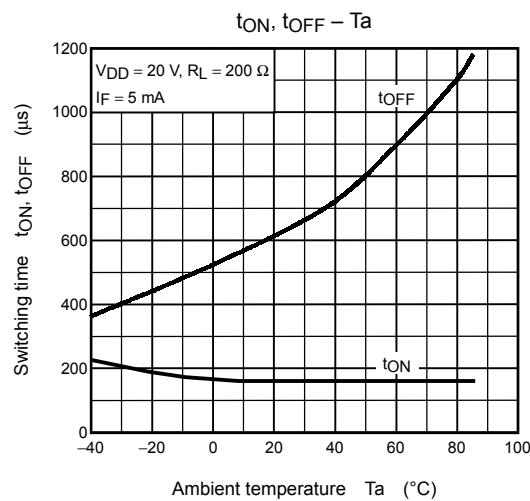
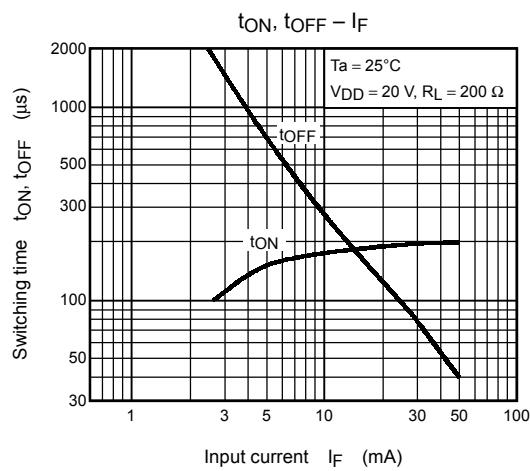
Switching Characteristics (Ta = 25°C)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Turn-on time	t _{ON}	R _L = 200 Ω V _{DD} = 20 V, I _F = 5 mA	—	—	1	ms
Turn-off time	t _{OFF}		—	—	3	ms

Note 2: Switching time test circuit







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