

TOSHIBA Photocoupler Photorelay

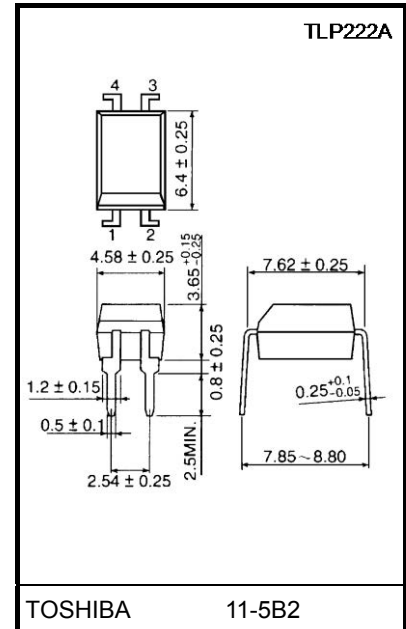
TLP222A, TLP222A-2

Telecommunications
 Measurement and Control Equipment
 Data Acquisition System
 Measurement Equipment

The Toshiba TLP222A and TLP222A-2 consist of a gallium arsenide infrared emitting diode optically coupled to a photo-MOSFET in a DIP package whose withstanding voltage is 60 V. These photorelays have higher output current rating than phototransistor-type photocoupler; hence, they are suitable for use as On/Off control for high current.

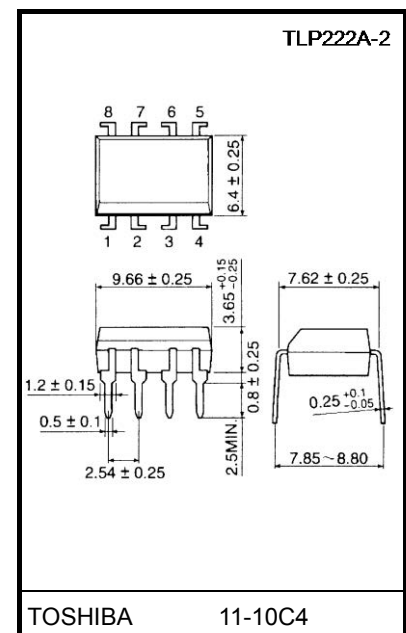
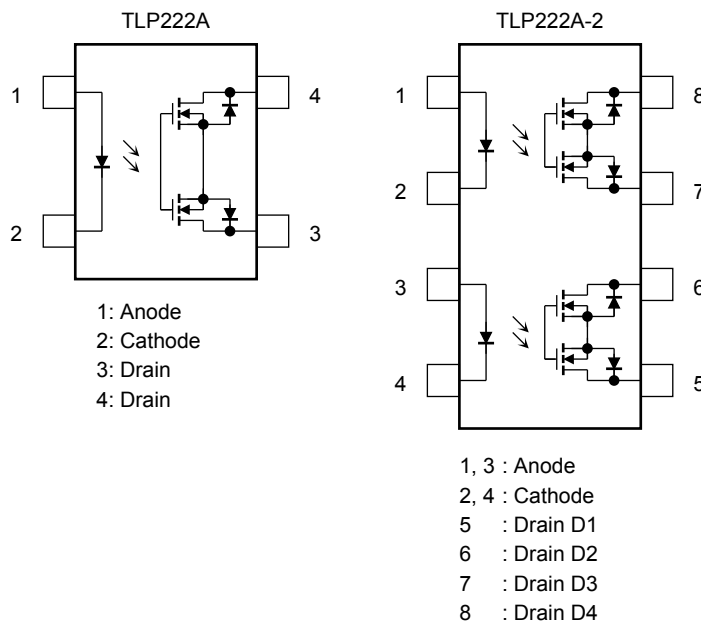
- Normally open (1-form-A and 2-form-A) devices
- Peak off-state voltage: 60 V (min)
- Trigger LED current: 3 mA (max)
- On-state current: 500 mA (max)
- On-state resistance: 2 Ω (max)
- Isolation voltage: 2500 Vrms (min)
- UL approval: UL1577, File No.E67349
- cUL approved :CSA Component Acceptance Service
 No. 5A, File No.E67349

Unit: mm



Weight: 0.26 g (typ.)

Pin Configuration (top view)



Weight: 0.54 g (typ.)

Start of commercial production
 2002-03

Coupled Electrical Characteristics (Ta = 25°C)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Trigger LED current	I_{FT}	$I_{ON} = 500 \text{ mA}$	—	1.6	3	mA
Return LED current	I_{FC}	$I_{OFF} = 100 \text{ } \mu\text{A}$	0.1	—	—	mA
On-state resistance	R_{ON}	$I_{ON} = 500 \text{ mA}, I_F = 5 \text{ mA}$	—	1	2	Ω

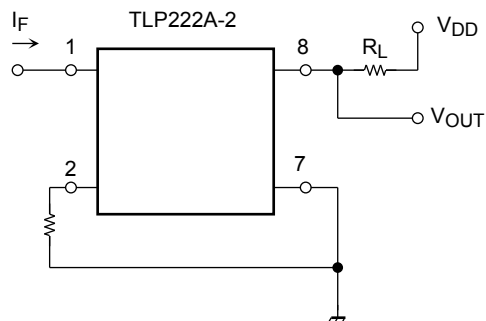
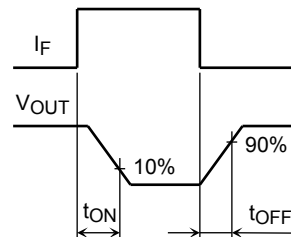
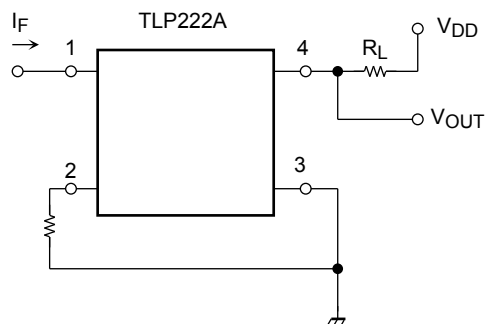
Isolation Characteristics (Ta = 25°C)

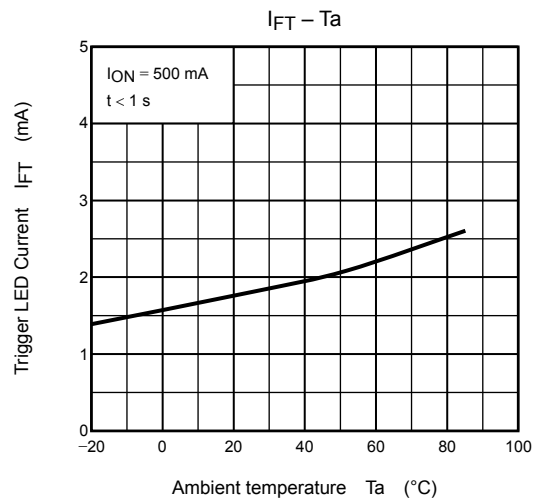
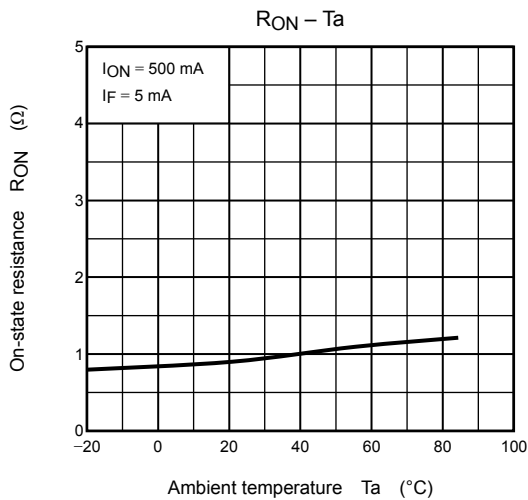
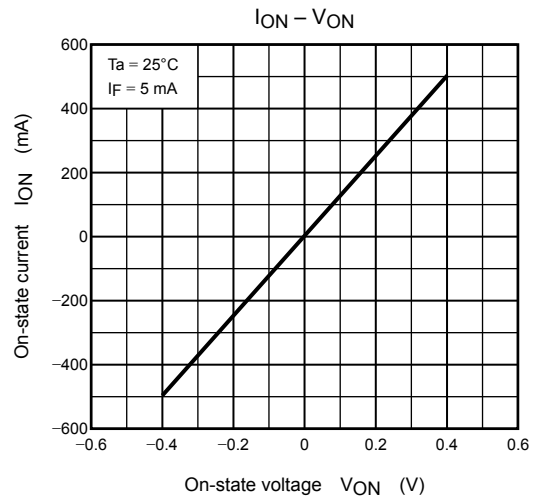
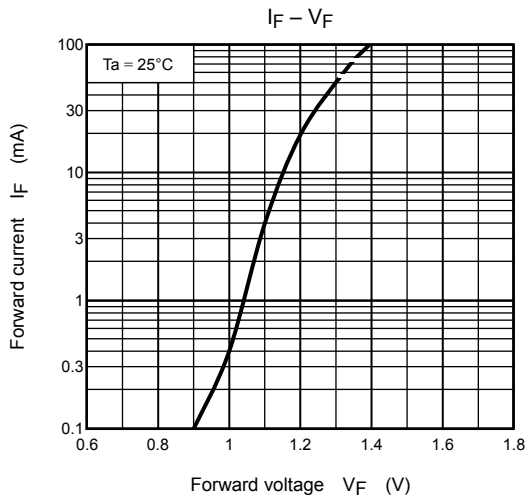
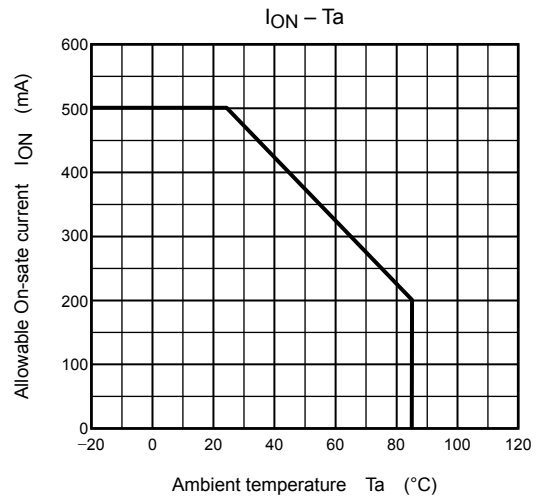
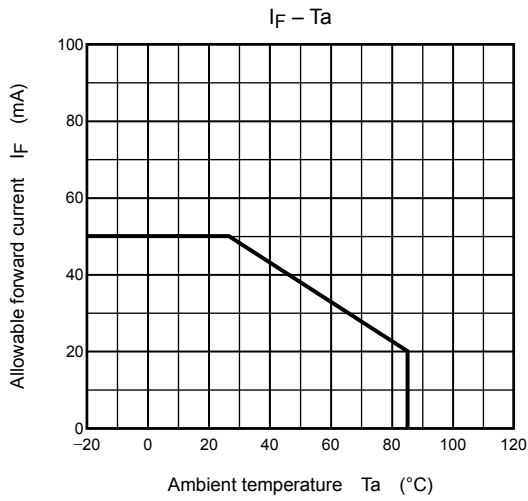
Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Capacitance input to output	C_S	$V_S = 0 \text{ V}, f = 1 \text{ MHz}$	—	0.8	—	pF
Isolation resistance	R_S	$V_S = 500 \text{ V}, \text{R.H.} \leq 60\%$	5×10^{10}	10^{14}	—	Ω
Isolation voltage	BV_S	AC, 1 minute	2500	—	—	Vrms
		AC, 1 second, in oil	—	5000	—	Vrms
		DC, 1 minute, in oil	—	5000	—	Vdc

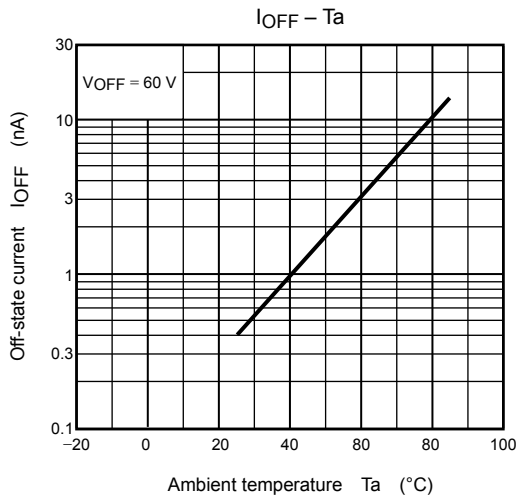
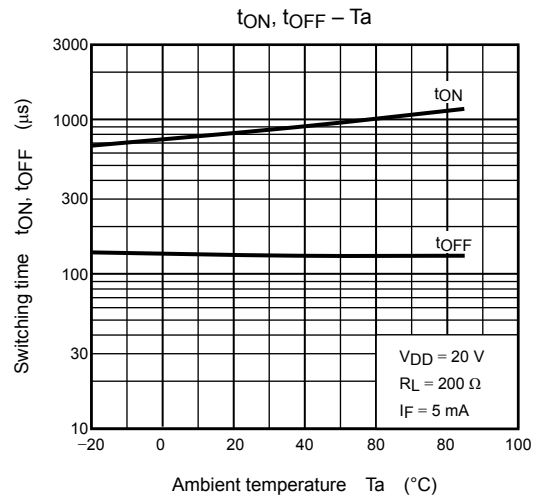
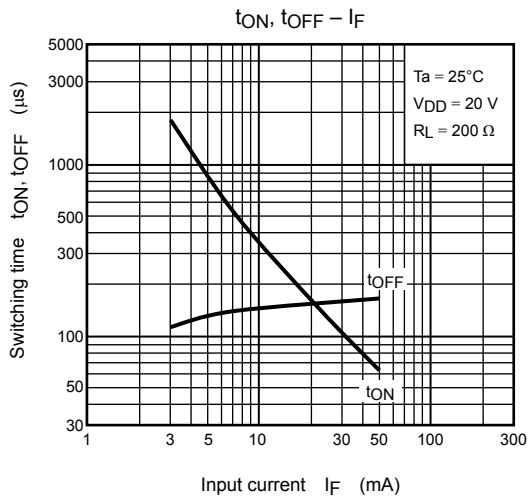
Switching Characteristics (Ta = 25°C)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Turn-on time	t_{ON}	$R_L = 200 \text{ } \Omega$ $V_{DD} = 20 \text{ V}, I_F = 5 \text{ mA}$ (Note 2)	—	0.8	2	ms
Turn-off time	t_{OFF}		—	0.1	0.5	

Note 2: Switching time test circuit







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