

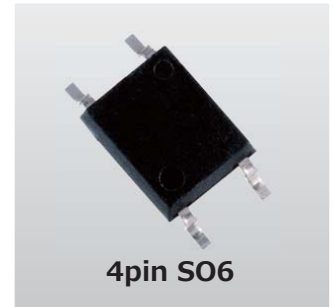
A small photorelay for factory automation and industrial applications supporting up to 1.4 A

“TLP3122A” is a photorelay with an OFF-state output terminal voltage rating of 60 V and an ON-state current rating of 1.4 A, using the 4pin SO6 package suitable for factory automation and other industrial applications.

The new product TLP3122A has reduced its ON-state resistance by incorporating a MOSFET fabricated with the latest generation process U-MOSIX having a trench structure in its detector and supports an ON-state current rating of up to 1.4 A and 4.2 A (pulsed) in the small 4pin SO6 package.

This product can replace a 1-Form-A mechanical relay. Replacing mechanical relays with photorelays helps improve system reliability and reduce the space required for relays and relay drivers. In addition, as the product’s rated operating temperature is maximum 110 °C, it is easier to secure a temperature margin in system-level thermal design.

TLP3122A photorelay is upward compatible with the TLP3122 in the conventional 2.54SOP4 package. It also helps increase the system drive current, and that makes possible to serve as a replacement for a wider range of mechanical relays.



Features

- OFF-state output terminal voltage rating: $V_{OFF}=60\text{ V}$, ON-state current rating: $I_{ON}=1.4\text{ A}$, ON-state current(pulsed) rating: $I_{ONP}=4.2\text{ A}$
- Low ON-state resistance: $R_{ON}=0.25\ \Omega$ (max)
- High Operating temperature rating: T_{opr} (max)=110 °C

Applications

- Industrial equipment (PLC, I/O interface)
- Building automation systems (HVAC^[1], etc.)
- Semiconductor testers
- Security equipment
- Replacement of mechanical relays (AC 24 to 32 V system, DC 24 to 48 V system)



PLC

Product Specifications

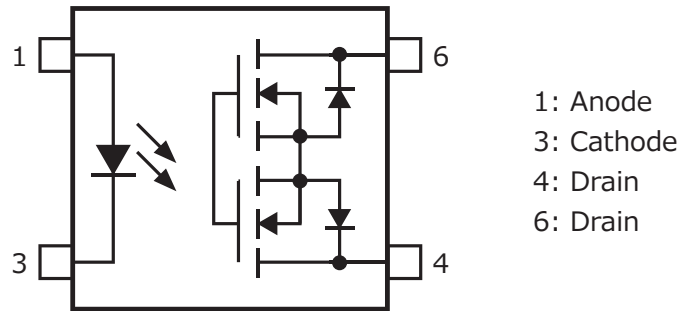
(@ $T_a=25\text{ °C}$)

Part number	Absolute maximum ratings				Trigger LED current I_{FT} max (mA)	ON-state resistance R_{ON} typ. (Ω)	ON-state resistance R_{ON} max (Ω)	Output Capacitance C_{OFF} typ. (pF)	OFF-state current I_{OFF} max @ $V_{OFF}=60\text{ V}$ (μA)	Turn-on time t_{ON} max (ms)	Turn-off time t_{OFF} max (ms)
	OFF-state output terminal voltage V_{OFF} (V)	ON-state current I_{ON} (A)	ON-state current (pulsed) I_{ONP} (A)	Operating temperature T_{opr} ($^{\circ}\text{C}$)							
TLP3122A	60	1.4	4.2	-40 to 110	3	0.13	0.25	100	1	3	1

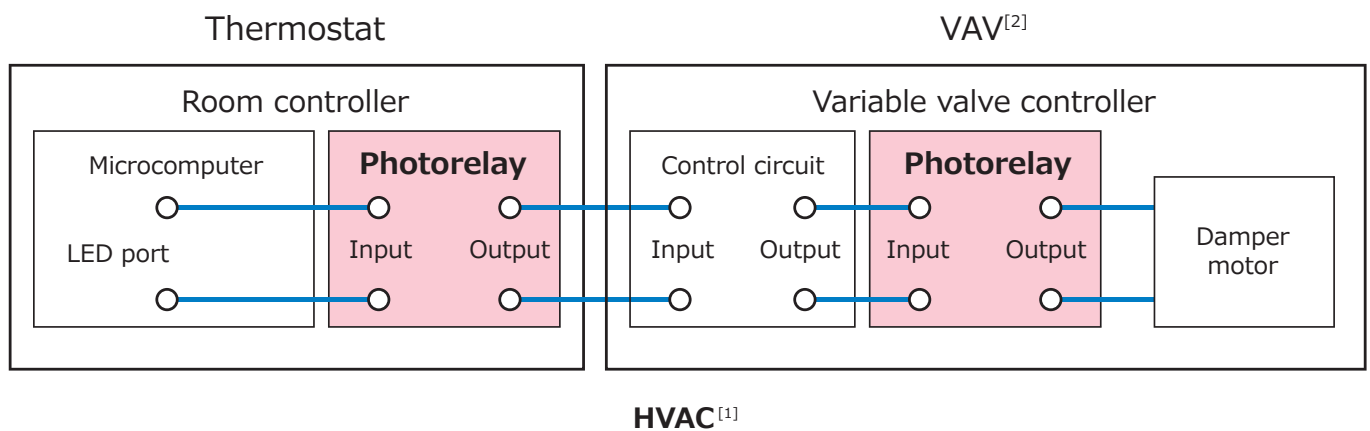
Notes:

[1] HVAC (Heating, Ventilation and Air Conditioning)

Pin Assignment



Application Circuit Example



Notes:

[2] VAV (Variable Air Volume)

The application circuits shown in this document are provided for reference purposes only. Thorough evaluation is required, especially at the mass-production design stage. Toshiba Electronic Devices & Storage Corporation does not grant any license to any industrial property rights by providing these examples of application circuits.

Before creating and producing designs and using, customers must also refer to and comply with the latest versions of all relevant information of this document and the instructions for the application that Product will be used with or for.

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