

Lineup extension of photorelays in DIP8 packages by adding mid-voltage range products

TLP3823, TLP3825

Toshiba enhances lineup of large current products with ON-state current above 1 A as replacements for mechanical relays in industrial applications

Toshiba has launched new two mid-voltage photorelay products, the 100V "TLP3823" with 3 A drive ON-state current, and the 200 V "TLP3825" with 1.5 A ON-state current, additions to its lineup of large current photorelays to replace mechanical relays.

Alongside Toshiba's current 60 V "TLP3547" with 5 A ON-state current, the new products with ON-state currents higher than 1 A will extend the range of photorelay's application.

In recent years, replacement from mechanical relay to photorelay has been accelerating. Toshiba is supporting and promoting this shift by applying its trench MOSFET, 8th generation UMOS, to feature output currents exceeding 1 A.

Unlike mechanical relays, photorelays have no physical contacts subject to wear and tear, an advantage that contributes to application's reliability. Use of photorelays also supports development of smaller and thinner products. Toshiba's new photorelays also offer the advantage of a rated pulsed ON-state current that is three times larger than continuous ON-state current, securing a bigger margin for safety design.

Toshiba is recognized as the leading manufacturer of optocouplers by sales in 2015 and 2016, with a 23 % by sale-based market share in CY2016 on the latest Gartner market report. (Source: Gartner, Inc. "Market Share Semiconductor Devices and Applications Worldwide 2016", 30 March 2017).

Toshiba will continue providing products that meet the needs of customers by promoting the development of a diverse portfolio of photocouplers and photorelays tailored to market trends.

Applications

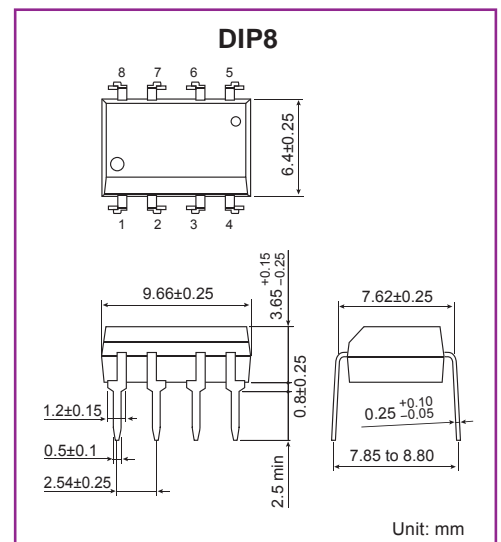
- Industrial equipment
- General purpose inverters
- HVAC^{*1}
- Thermostats
- Building automation system
- Semiconductor testers (memory, SoC and LSI)
- Various test instruments
- Replacement of mechanical relays



External View



Outline Drawing



*1: Heating, Ventilation, and Air Conditioning

Main Specifications

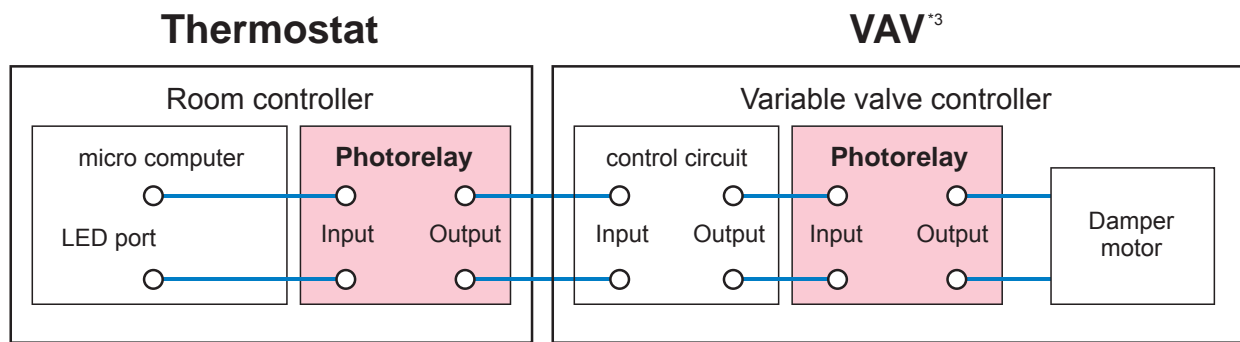
(@T_a=25°C)

Part number	Absolute maximum ratings				ON-state resistance		Trigger LED current I _{FT} max (mA)	OFF-state current		Turn-on time t _{ON} typ. (ms)	Turn-off time t _{OFF} typ. (ms)	Package
	OFF-state Output Terminal voltage V _{OFF} (V)	ON-state current I _{ON} (A)	ON-state Current (pulsed) I _{ONP} (A)	Isolation voltage BV _s (V _{rms})	R _{ON} typ. (mΩ)	R _{ON} max (mΩ)		I _{OFF} max (nA)	@V _{OFF} (V)			
TLP3547	60	5	15	2500	22	50	5	1	60	2.5	0.1	DIP8
TLP3823 ^{*2}	100	3	9	2500	60	150	5	1	100	1.5	0.1	
TLP3825 ^{*2}	200	1.5	4.5	2500	200	500	5	1	200	0.25	0.1	

*2: New products

Circuit Example

■ HVAC^{*1}, Thermostat



*3: Variable Air Volume (VAV)

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