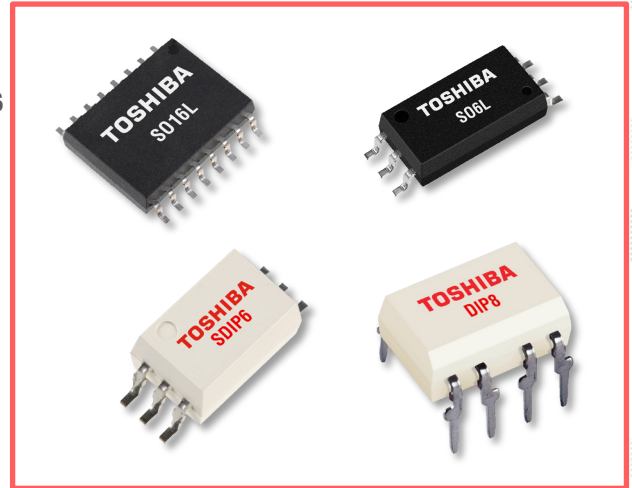


PHOTOCOUPLER

> GATE DRIVE COUPLER

Ideal for Tough Industrial Applications

Our IGBT / MOSFET Gate Drive coupler portfolio includes an extensive line-up of photocouplers with an output ranging from 0.6A to the industry's highest-level, 6.0A. Thus, you can select couplers that best fit your needs according to the gate capacitances of the driven IGBTs and MOSFETs.



> APPLICATIONS

- Industrial automation
- FA Inverter
- AC Servo
- Power Supply (UPS)
- Air Conditioner Inverter
- Photovoltaic Inverter
- Home Appliances
- Induction Cooking

> FEATURES

Wide Range of Gate Drive devices with extended temp range from -40°C up to +125°C

Optical isolation with guaranteed internal galvanic isolation distance of min. 0.4mm

Package variety with excellent isolation performance

Leading edge technology for best technical performance and fastest switching

New Rail to Rail IGBT drivers

Smart IGBT Driver with desaturation detection and active miller clamp

> ADVANTAGES

Products are flexible applicable in harsh environments

Provides best in class isolation performance without creating EMI issues

Variety of lead forming styles with 7mm & 8mm clearance/creepage

Devices offer highest CMR up to 40kV/μs and integrated UVLO circuit

Improved system efficiency

No external protection circuit needed

> BENEFITS

Attractive cost effects

- Fewer field failures due to higher product reliability
- Less EMI problems
- 50% less mounting space for new SO6L package compared with old DIP8 packages
- Less external components needed

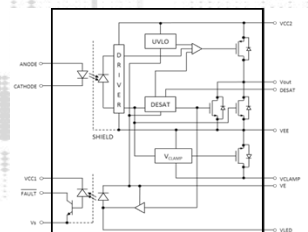
Smart performance increases

- Strong isolation for enhanced safety and high reliability
- Easy design for best performance

> TLP5214 – SMART IGBT GATE DRIVER COUPLER IN SO16L PACKAGE WITH DESATURATION DETECTION AND ACTIVE MILLER CLAMP

Toshiba's TLP5214 is a smart gate driver photocoupler which includes several functions like IGBT desaturation detection, isolated fault status feedback, soft IGBT turn-off, active Miller clamping and under voltage lockout (UVLO). It comes in the industries thinnest SO16L package with a max. height of 2.3mm and it features the industries highest-class peak output current of 4.0 A.

Main Characteristics	
Package height	2.3 mm
Peak current	± 4.0 A (max)
Operating temp.	-40 ~ 110°C
Supply current	3.5 mA (max)
tpHL / tpLH	150 ns (max)
tpsk	80 ns (max)



➤ TLP575x & TLP577x – THE BEST CHOICE FOR NEW DRIVE GENERATIONS

The excellent combination of Toshiba's high performance long life LEDs, low power consumption Driver ICs with Rail to Rail Output and the advanced, space saving SO6L package with a max. height of 2.3mm make Toshiba's gate driver couplers the ideal choice for the next generations of drives.

The new TLP5771, TLP5772 and TLP5774 supply peak output currents of 1A, 2.5A and 4A. Maximum propagation delay time and propagation delay skew are guaranteed within the defined wide operation temperature range up to 110°C, making it possible to reduce dead time in the inverter circuit, which can secure higher operating efficiency.

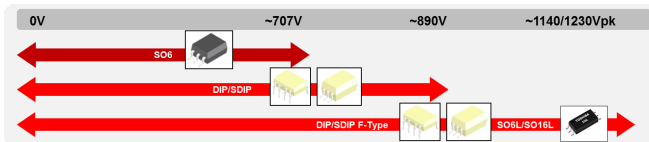
The very low threshold input current of max. 2mA allows direct drive of the device from an MCU.

➤ SO6L PACKAGE

Toshiba's SO6L package with 8mm clearance and creepage distances guarantees a maximum operating insulation voltage of 1230Vpk.

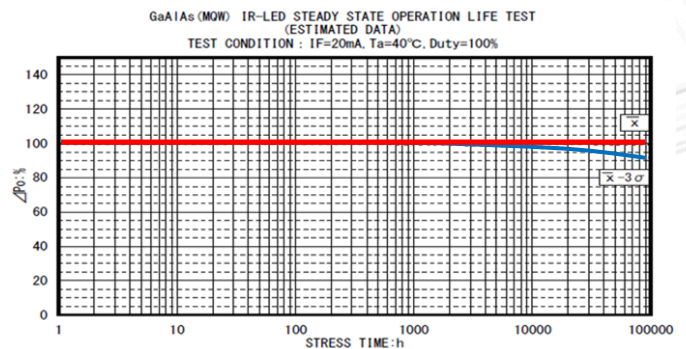
It's maximum height of only 2.3mm makes it suitable for mounting on the backside of a PCB, which greatly improves the design flexibility for the front side.

Maximum Operating Insulation Voltage (EN60747-5-5)



➤ LONG LIFETIME HIGH TEMPERATURE LED

Toshiba's high reliability LEDs (InGaAs) allow operation at high temperature conditions and show much lower output degradation over time than standard LEDs. Design gets very easy.



➤ IGBT / MOSFET-GATE DRIVER COUPLER LINE-UP

Peak Output Current	Propagation Delay Time (max.)	Supply Voltage V _{cc}	Threshold Input Current I _{FLH} (max.)	Package							
				SO6	SO6L*1	SO16L*1	SO8	SDIP6	SDIP6 F type*1	DIP8	DIP8 F type*1
± 6 A	500 ns	15 V ~ 30 V	5 mA							TLP358H H	TLP358HF H
± 4 A	150 ns	15 V ~ 30 V	4 mA 6 mA		TLP5754 H Rail to Rail	TLP5214 H Rail to Rail					
		10 V ~ 30 V	2 mA		TLP5774 H Rail to Rail						
± 2.5 A	150 ns	15 V ~ 30 V	4 mA		TLP5752 H Rail to Rail						
		10 V ~ 30 V	2 mA		TLP5772 H Rail to Rail						
	200 ns	15 V ~ 30 V	5 mA		TLP5702 H			TLP700A H	TLP700AF H	TLP352 H	TLP352F H
		10 V ~ 30 V	7.5 mA	TLP152							
500 ns	15 V ~ 30 V	5 mA					TLP700H H	TLP700HF H	TLP350H H	TLP350HF H	
	10 V ~ 30 V	5 mA							TLP250H H	TLP250HF H	
± 1 A	150 ns	15 V ~ 30 V	4 mA		TLP5751 H Rail to Rail						
		10 V ~ 30 V	2 mA		TLP5771 H Rail to Rail						
± 0.6 A	200 ns	10 V ~ 30 V	7.5 mA	TLP155E				TLP705A	TLP705AF		
	500 ns		5 mA	TLP151A H	TLP5701 H		TLP2451A H	TLP701A	TLP701AF	TLP351A	
	700 ns		5 mA					TLP701H H	TLP701HF H	TLP351H H	TLP351HF H

*1 SO6L, SO16L and F type of SDIP and DIP Photocouplers have 8mm clearance / creepage distances

H Photocouplers with a maximum operating temperature of 110°C

H Photocouplers with a maximum operating temperature of 125°C