

## 5.0 Amp Output Current IGBT and SiC/GaN MOSFET Gate Drive Optocoupler with Integrated Over Current Sensing, FAULT, GATE, and UVLO Status Feedback

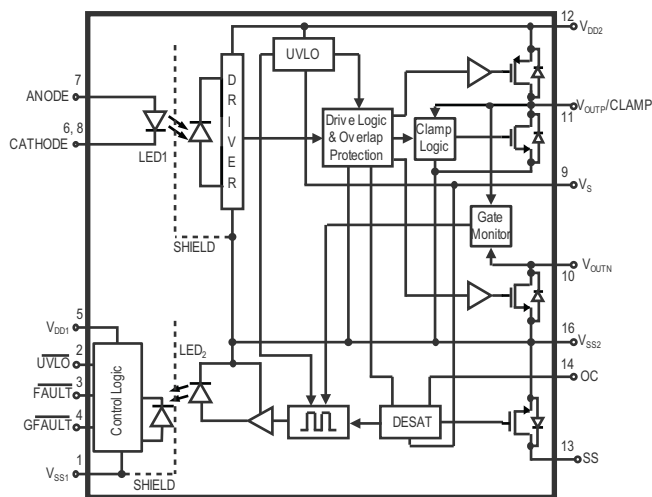
### Product Brief

#### Description

The ACPL-352J is a 5.0A intelligent gate drive optocoupler. The high peak output current and wide operating voltage range make it ideal for driving IGBT or SiC/GaN MOSFET directly in motor control and inverter applications.

The device features fast propagation delay with excellent timing skew performance. It provides IGBT/MOSFET with over current protection and fail-safe functional safety reporting. This full-featured and easy-to-implement gate drive optocoupler comes in a compact, surface-mountable SO-16 package. It provides reinforced insulation certified for safety regulatory IEC/EN/DIN, UL, and CSA.

#### Functional Diagram



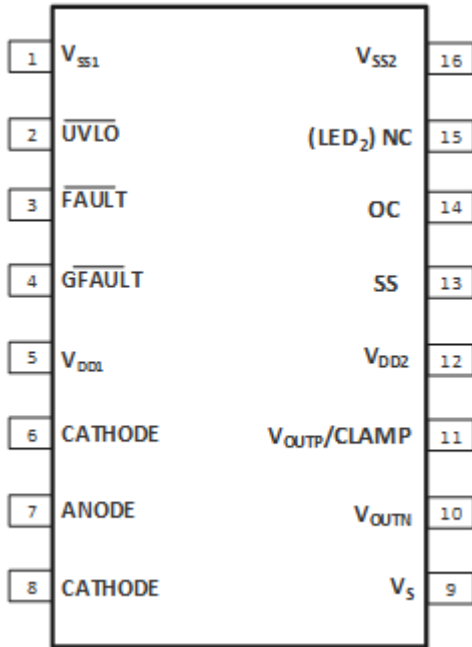
#### Features

- 5.0 A maximum peak output current
- 4.5 A minimum peak output current
- 150 ns maximum propagation delay
- Dual output drive to control turning on and off time
- Over current detection with configurable "Soft" shutdown
- Functional Safety Reporting
  - Over current FAULT feedback
  - IGBT/MOSFET GATE status feedback
  - UVLO status feedback
- Under Voltage Lock-Out (UVLO) with Hysteresis
- 50 kV/ $\mu$ s Minimum Common Mode Rejection (CMR) at  $V_{CM} = 1500$  V
- 15V to 30V wide operating  $V_{DD2}$  range
- $-40$  °C to  $105$  °C industrial temperature range
- 8.3mm creepage and clearance
- Safety Approval Pending
  - UL Recognized 5000  $V_{RMS}$  for 1min.
  - CSA
  - IEC/EN/DIN EN 60747-5-5  $V_{IORM} = 1414$   $V_{PEAK}$

#### Applications

- IGBT and SiC/GaN MOSFET gate drive
- Industrial drives and inverters
- Renewable energy inverters
- Switching power supplies

## Pin Description



Pin	Symbol	Description
1	V <sub>SS1</sub>	Input ground.
2	UVLO	VDD2 under voltage lock out feedback.
3	FAULT	Over current fault feedback.
4	GFAULT	IGBT or MOSFET Gate status feedback.
5	V <sub>DD1</sub>	Input power supply.
6	CATHODE	Input LED cathode.
7	ANODE	Input LED anode.
8	CATHODE	Input LED cathode.
9	V <sub>S</sub>	Common (IGBT emitter or MOSFET source) output supply voltage.
10	V <sub>OUTN</sub>	Driver output to turn off IGBT or MOSFET Gate.
11	V <sub>OUTP/CLAMP</sub>	Driver output to turn on IGBT or MOSFET Gate/Miller Clamp.
12	V <sub>DD2</sub>	Positive output power supply.
13	SS	Soft shutdown.
14	OC	Over current input pin. When the voltage on the OC pin exceeds an internal reference voltage of 7 V while the IGBT is on, FAULT output is changed from logic high to low state.
15	(LED <sub>2</sub> )NC	No connection.
16	V <sub>SS2</sub>	Negative output power supply.

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