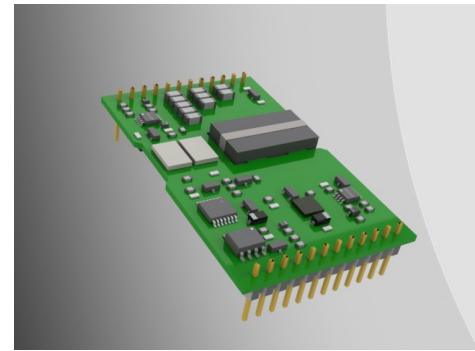


HIGHLIGHTS

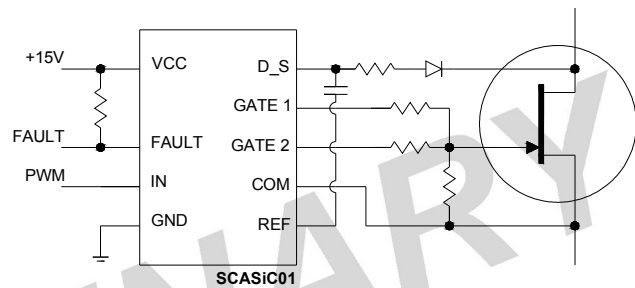
- Single channel
- Two stage driver (switching & conduction)
- Suitable for 600, 1200 & 1700V normally-OFF JFET
- 10W maximum output power
- Switching up to 350kHz
- Integrated DC-DC SMPS
- Schmidt trigger logic input
- Allows parallel connection of devices
- Short circuit protection
- Error detection & fault report



non-contractual photo

APPLICATIONS

- High frequency SMPS
- Medium/High power UPS
- Solar inverters
- Wind power converters
- Induction heating
- Welding machines



Simplified application diagram

ABSTRACT: About SiC JFETs & two stage driver

Silicon Carbide JFETs are part of the family of the wide bandgap devices. They offer several advantages over the silicon MOSFETs and IGBTs (no tail current, lower switching losses, higher thermal conductivity...) so, they can be proposed as an effective replacement. But, instead of MOSFETs, normally-OFF JFETs requires a constant gate current supply to maintain the on-state. The most reliable way is using separate power stages: one for turning on and off, and another for supplying the on-state gate current, (not too low, if we want to apply enough gate voltage to ensure the JFET saturation). SCASiC01 incorporates the most common features of a commercial PCB IGBT/MOSFET driver core, dedicated to drive JFETs, including the two stage gate driver, and logic outputs for easy paralleling of the devices. Suitable for any hard switching converter, with single switch or bridge topology.

KEY DATA

Supply voltage	0...15V
Maximum JFET operation voltage	1700V _{PK}
Isolation voltage	5000V _{AC}
Turn-on gate voltage	+15V
On-state maximum gate voltage	+5V
Gate peak current	+9/-6A
Maximum output power	10W
Input logic level	3,3...15V
Operating temperature	-55...85°C

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