

Embedded Circuit Block for Power Electronics

SiC Three Phase Inverter

HGCB-6A-401300



Abstract

- Equipped with Trench SiC-MOSFET by Rohm
- 6 SiC Power Devices, Gate Drivers, Sensor Circuit mounted on-board in 3-phase Inverter topology, Heatsink and FAN included
- Driven with External Gate Input and Power Source
- Analogue signal output measured by voltage/current sensor
- 24V/5V power supply, cabling, controller are to be provided by customers.
- Control circuit and main power circuit are isolated.
- Hardware-based circuit protection against shoot-through or wrong gate pattern input.

Features

SiC-MOSFET, Gate Drivers, Voltage/Current Sensor on Board

- Easy Evaluation Environment of SiC 3-phase Inverter
 - ✓ Voltage/Current Feedback system with sensor signal
 - ✓ Chopper, 1-phase inverter can be realized by arrangement of connection
 - ✓ Compatible for Headspring Standard Controller

Free Circuit Diagram Information Provided

- Evaluation by both Theory and Experiment
 - ✓ For reference of user's circuit design
 - ✓ Various customization available

As of June/2017

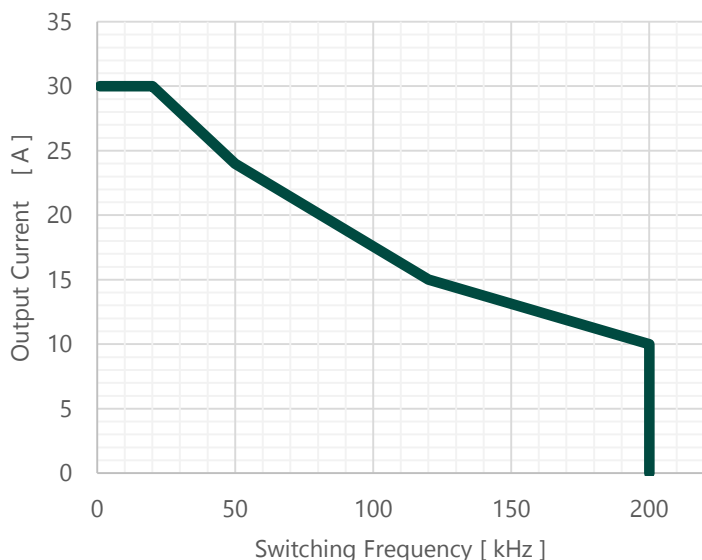
* Specifications and Design are subject to change without notice.

Specification (Model: HGCB-6A-401300)

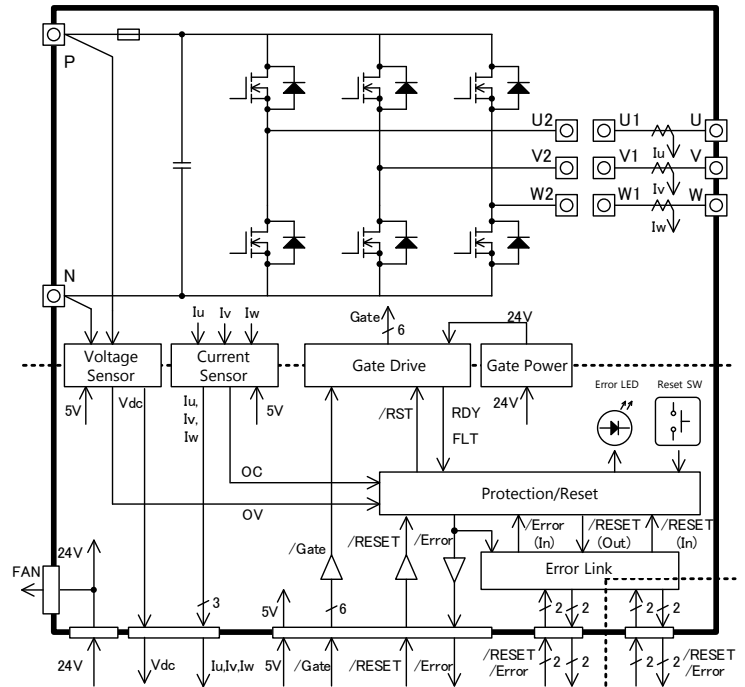
Subject	Specification	Notes
Size	W 213mm D 123mm H 67mm	Except for the Projections
Weight	950g	
Voltage Range (DC-side)	0V~400V	Between P-N port
Current Range (AC-side)	30Arms	AC port Current (Derating in High Frequency and High Voltage Range)
AC Power Capacity	10kVA	
Switching Frequency	~200kHz	
Dead time	200ns以上	Directly Defined by user
Voltage Sensor	400V / 4V	<ul style="list-style-type: none"> - Between P-N port - Circuit Protection against over/under volatege (Threshold set by Volume)
Current Sensor	±100A / ±4V	<ul style="list-style-type: none"> - 3-phase Current - Curcuit Protection against over/under current (Threshold set by Volume)
Power Supply	5V < 0.15A	
Power Supply	24V < 0.75A	

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Derating



Block Diagram



External Interface

Signal	I/O	Description
Gate Signal	Input	5V TTL (Negative) Pull-up with 4.7kΩ
Error Reset Signal	Input	5V TTL (Negative) Pull-up with 4.7kΩ
Error Signal	Output	<ul style="list-style-type: none"> - 5V TTL (Negative) ("Low w/ error") - Overheat Protection Detection
Analogue Signal	Output	<ul style="list-style-type: none"> - DC Voltage x1 - AC Current x3
Error Signal (for Error Link)	Input/Output	<ul style="list-style-type: none"> - 5V TTL (Positive) - Error Status Sharing
Reset Signal (for Error Link)	Input/Output	<ul style="list-style-type: none"> - 5V TTL (Positive) - Reset Status Sharing

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