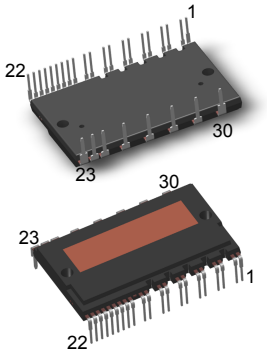
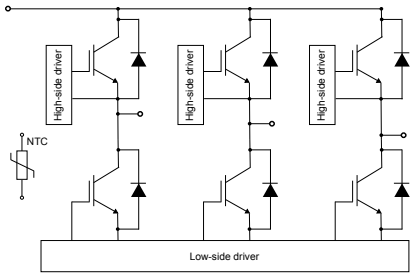
STGIK50CH65T

Data brief

SLLIMM high power IPM, 3-phase inverter, 50 A, 650 V short-circuit rugged IGBT



SDIPHP-30L



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Features

- IPM 650 V, 50 A 3-phase inverter bridge including control ICs for gates driving
- 3.3 V, 5 V TTL/CMOS inputs with hysteresis
- Under-voltage lockout of gate drivers
- Built-in bootstrap diodes
- Short-circuit protection
- Shutdown input/fault output
- Separate open emitter outputs
- Comparator for fault protection
- Short-circuit rugged
- Very fast, soft recovery diodes
- Fully isolated package
- Isolation rating of 2500 Vrms/min
- 100 kΩ NTC for temperature monitoring

Applications

- HVAC
- GPI
- Servo motor

Description

This new IPM (intelligent power module) is part of the high power SLLIMM (small low-loss intelligent molded module) family and provides a compact, high-performance AC motor drive in a simple, rugged design. It combines driver control with improved short-circuit rugged 650 V trench gate field-stop IGBTs, resulting ideal for 3-phase inverters motor drives.

Product status link
STGIK50CH65T

Product summary	
Order code	STGIK50CH65T
Marking	GIK50CH65T
Package	SDIPHP-30L
Packing	Tube

1 Internal schematic and pin description

Figure 1. Internal schematic diagram and pin configuration

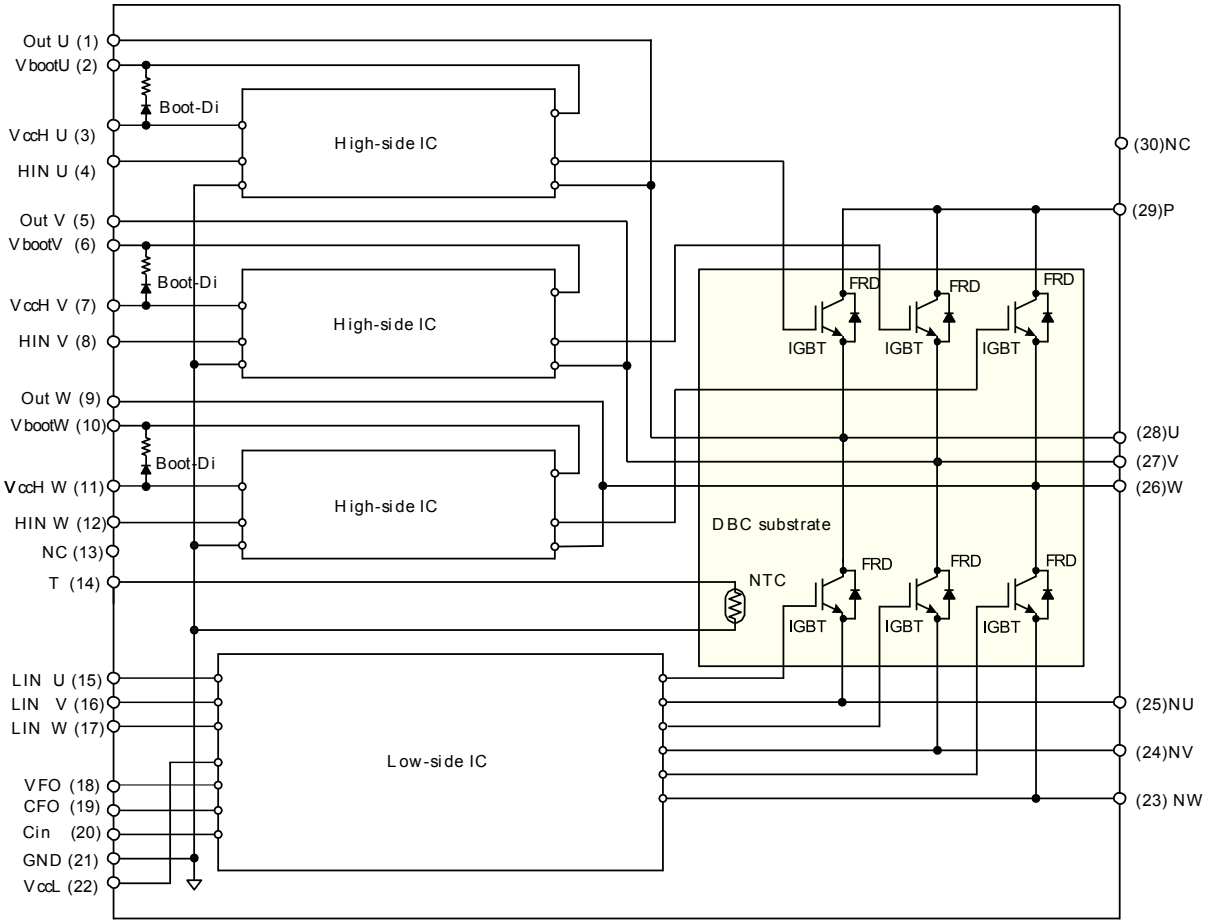

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Table 1. Pin description

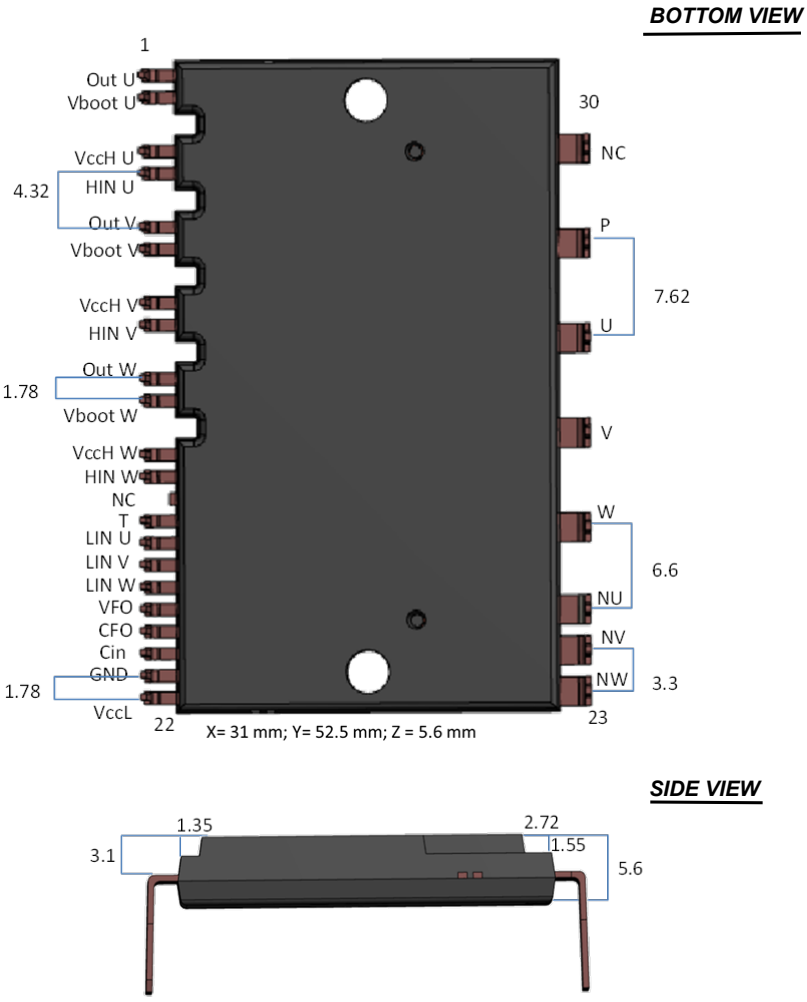
Pin	Symbol	Description
1	Out U	High-side reference output for U phase
2	Vboot U	Bootstrap voltage for U phase
3	VccH U	High-side low voltage power supply U phase
4	HIN U	High-side logic input for U phase
5	Out V	High-side reference output for V phase
6	Vboot V	Bootstrap voltage for V phase
7	VccH V	High-side low voltage power supply V phase
8	HIN V	High-side logic input for V phase
9	Out W	High-side reference output for W phase
10	Vboot W	Bootstrap voltage for W phase
11	VccH W	High-side low voltage power supply W phase
12	HIN W	High-side logic input for W phase
13	NC	Not connected (cut pin)
14	T	NTC thermistor output
15	LIN U	Low-side logic input for U phase
16	LIN V	Low-side logic input for V phase
17	LIN W	Low-side logic input for W phase
18	VFO	Shutdown/fault output
19	CFO	Capacitor for fault output setting
20	Cin	Comparator input
21	GND	Ground
22	VccL	Low-side low voltage power supply
23	NW	Negative DC input for W phase
24	NV	Negative DC input for V phase
25	NU	Negative DC input for U phase
26	W	W phase output
27	V	V phase output
28	U	U phase output
29	P	Positive DC input
30	NC	Not connected

2 Package information

In order to meet environmental requirements, ST offers these devices in different grades of ECOPACK packages, depending on their level of environmental compliance. ECOPACK specifications, grade definitions and product status are available at: www.st.com. ECOPACK is an ST trademark.

2.1 SDIPHP-30L package information

Figure 2. SDIPHP-30L package outline



(Dimensions are in mm)

Revision history

Table 2. **Document revision history**

Date	Version	Changes
20-Oct-2020	1	First release.