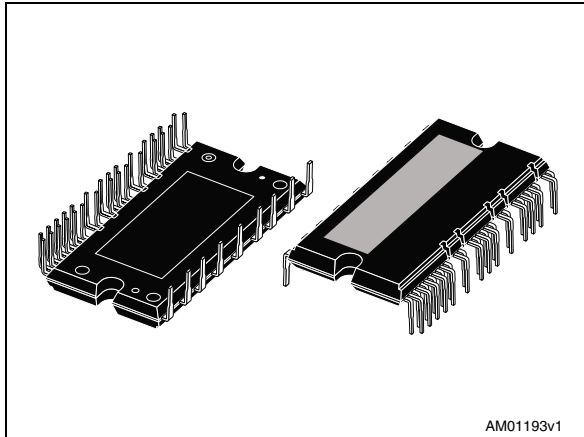


## SLLIMM™ (small low-loss intelligent molded module) IPM, 3-phase inverter, 30 A, 600 V short-circuit rugged IGBT

Datasheet - preliminary data



- 5 kΩ NTC for temperature control
- UL Recognized: UL1557 file E81734

### Applications

- 3-phase inverters for motor drives
- Home appliances, such as washing machines, refrigerators, air conditioners and sewing machines

### Description

This intelligent power module provides a compact, high performance AC motor drive in a simple, rugged design. Combining ST proprietary control ICs with the most advanced short-circuit-rugged IGBT system technology, this device is ideal for 3-phase inverters in applications such as home appliances and air conditioners. SLLIMM™ is a trademark of STMicroelectronics.

### Features

- IPM 30 A, 600 V 3-phase IGBT inverter bridge including control ICs for gate driving and free-wheeling diodes
- Short-circuit rugged IGBTs
- $V_{CE(sat)}$  negative temperature coefficient
- 3.3 V, 5 V, 15 V CMOS/TTL inputs comparators with hysteresis and pull down/pull up resistors
- Undervoltage lockout
- Internal bootstrap diode
- Interlocking function
- Smart shut down function
- Comparators for fault protection against overtemperature and overcurrent
- Op amps for advanced current sensing
- DBC substrate leading to low thermal resistance
- Isolation rating of 2500 V<sub>rms</sub>/min

Table 1. Device summary

Order code	Marking	Package	Packaging
STGIPL30C60-H	GIPL30C60-H	SDIP-38L	Tube

# Contents

- 1 Internal block diagram and pin configuration ..... 3**
- 2 Electrical ratings ..... 6**
  - 2.1 Absolute maximum ratings ..... 6
  - 2.2 Thermal data ..... 7
- 3 Electrical characteristics ..... 8**
  - 3.1 Control part ..... 10
    - 3.1.1 NTC thermistor ..... 13
  - 3.2 Waveforms definitions ..... 14
- 4 Smart shutdown function ..... 15**
- 5 Applications information ..... 17**
  - 5.1 Recommendations ..... 18
- 6 Package information ..... 19**
- 7 Revision history ..... 23**