

Product Overview

STK5MFU3C1A-E: 2-in-1 PFC and Inverter Intelligent Power Module (IPM), 600 V, 30 A

For complete documentation, see the data sheet.

The STK5MFU3C1A-E is a fully-integrated PFC and inverter power stage consisting of a high-voltage driver, six motor drive IGBTs, one PFC IGBT, one PFC rectifier and a thermistor, suitable for driving permanent magnet synchronous (PMSM) motors, brushless-DC (BLDC) motors and AC asynchronous motors. The IGBT's are configured in a 3-phase bridge with common emitter connections for the lower legs. An internal comparator and reference connected to the over-current protection circuit allows the designer to set individual over-current protection levels for the PFC and the inverter stages. Additionally, the power stage has a full range of protection functions including crossconduction protection, external shutdown and under-voltage lockout functions.

Features

- Simple thermal design with PFC and inverter stage in one package
- PFC operating frequency up to 40 kHz
- Cross-conduction protection
- Adjustable over-current protection level
- Integrated bootstrap diodes and resistors
- Certification : UL1557 (File Number : E339285)

Applications

- Industrial HVAC
- Industrial Automation
- Major Home Appliances

Benefits

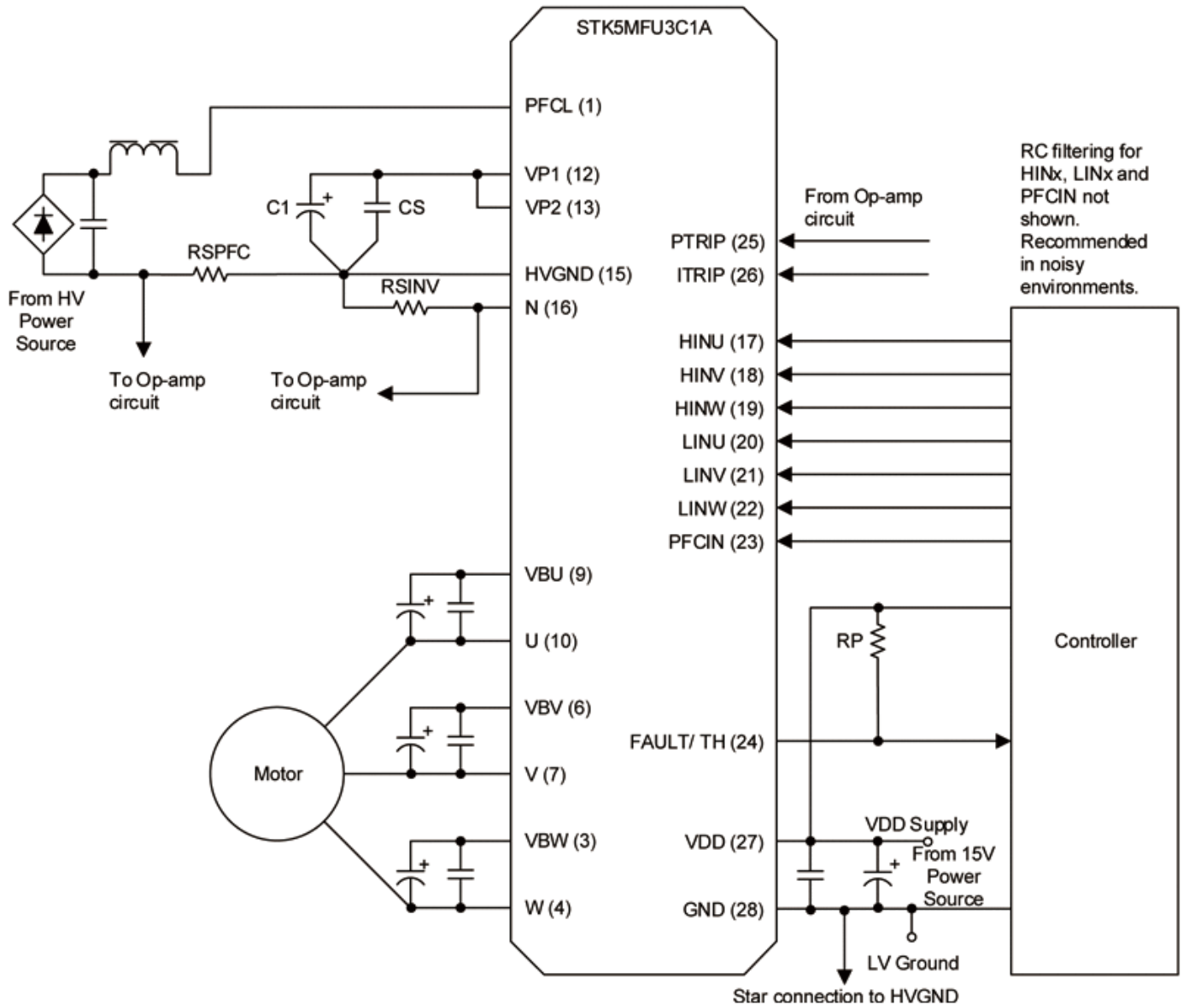
- Simplified thermal design. Minimal external components.
- Reduced inductor size.
- Robust operation under fault conditions.
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- Reduced external component count and layout size.

End Products

- Heat Pumps
- Industrial Fans
- Industrial Pumps
- Clothes Washers
- Refrigerators

Application Diagram

Application Schematic



For more information please contact your local sales support at www.onsemi.com.

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