

CIPOS™

Control Integrated Power System

Dual In-Line Intelligent Power Module
3Φ-bridge 600V / 15A

Features

Fully isolated Dual In-Line molded module

- TRENCHSTOP™ IGBTs
- Rugged SOI gate driver technology with stability against transient and negative voltage
- 0.5μs minimum deadtime
- 0.5μs on/off pulse width response possible
- On/off matched delay time to all 6 driver outputs
- Allowable negative VS potential up to -11V for signal transmission at VBS=15V
- Integrated bootstrap functionality
- Over current shutdown
- Temperature monitor
- Under-voltage lockout at all channels
- Low side emitter pins accessible for all phase current monitoring (open emitter)
- Cross-conduction prevention
- All of 6 switches turn off during protection
- Lead-free terminal plating; RoHS compliant

Target Applications

- Washing machines
- Fans
- Low power motor drives

Description

The CIPOS™ module family offers the chance for integrating various power and control components to increase reliability, optimize PCB size and system costs.

It is designed to control three phase AC motors and permanent magnet motors in variable speed drives for high switching frequency applications (around 15kHz) like a washing machine due to very low turn-off switching loss. The package concept is specially adapted to power applications, which need good thermal conduction and electrical isolation, but also EMI-save control and overload protection.

TRENCHSTOP™ IGBTs and anti parallel diodes are combined with an optimized SOI gate driver for excellent electrical performance.

System Configuration

- 3 half bridges with TRENCHSTOP™ IGBTs and anti parallel diodes
- 3Φ SOI gate driver
- Thermistor
- Pin-to-heatsink clearance distance typ. 1.6mm

Pin Configuration

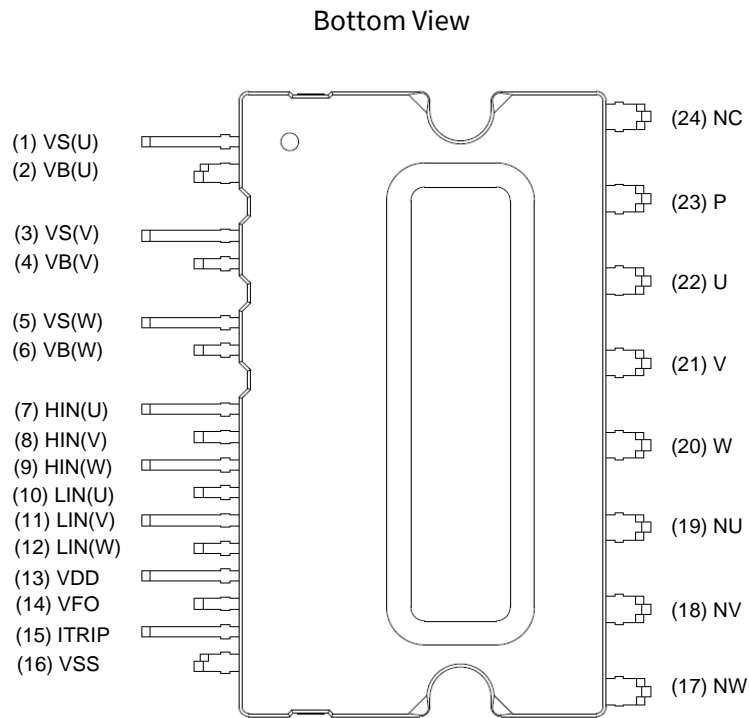


Figure 1 Pin configuration

Internal Electrical Schematic

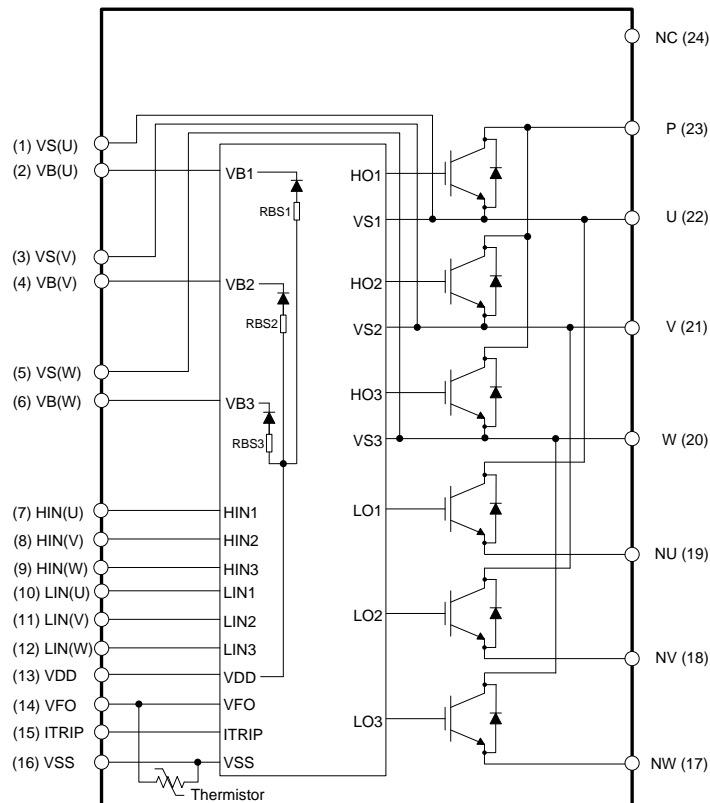


Figure 2 Internal schematic