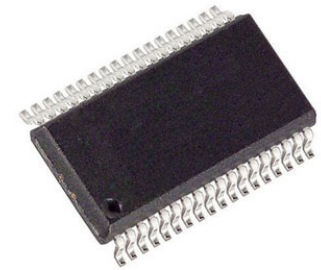


H-Bridge Motor Driver Automotive 36-Pin PowerSSO EP T/R

Images are for reference only

[Inquiry](#)**Manufacturer:** [STMicroelectronics, Inc](#)**Package/Case:** HSSOP36**Product Type:** Driver ICs**Lifecycle:** Active**General Description**

The VNH5050A-E is a full bridge motor driver intended for a wide range of automotive applications. The device incorporates a dual monolithic high-side driver and two low-side switches. All switches are designed using STMicroelectronics well known and proven proprietary VIPower M0 technology that allows to efficiently integrate on the same die a true Power MOSFET with an intelligent signal/protection circuitry. The three dies are assembled in a PowerSSO-36 TP package on electrically isolated lead frames. This package, specifically designed for the harsh automotive environment offers improved thermal performance thanks to exposed die pads. Moreover, its fully symmetrical mechanical design allows superior manufacturability at board level. The input signals INA and INB can directly interface to the microcontroller to select the motor direction and the brake condition. The DIAGA/ENA or DIAGB/ENB, when connected to an external pull-up resistor, enables one leg of the bridge. Each DIAGA/ENA provides a digital diagnostic feedback signal as well. The normal operating condition is explained in the truth table. The CS pin allows monitoring the motor current by delivering a current proportional to its value when CS_DIS pin is driven low or left open. When CS_DIS is driven high, CS pin is in high impedance condition. The PWM, up to 20 KHz, allows to control the speed of the motor in all possible conditions. In all cases, a low level state on the PWM pin turns off both the LSA and LSB switches.

Key Features

Output current: 30 A

3 V CMOS compatible inputs

Undervoltage and overvoltage shutdown

Overvoltage clamp

Thermal shutdown

Cross-conduction protection

Current and power limitation

Very low standby power consumption

PWM operation up to 20 KHz

Protection against loss of ground and loss of VCC

Current sense output proportional to motor current

Output protected against short to ground and short to VCC

Package: ECOPACK

Recommended For You

VN5050JTR-E

STMicroelectronics, Inc

HSSOP12

VNLD5160TR-E

STMicroelectronics, Inc

SOP8

VND5T050AKTR-E

STMicroelectronics, Inc

SSOP24

VNS3NV04PIR-E

STMicroelectronics, Inc

SOP8

VN7003ALHIR

STMicroelectronics, Inc

Octapak-7

VND7140AJ12TR

STMicroelectronics, Inc

HSSOP12

VN330SP-E

STMicroelectronics, Inc

HSOP10

VNL5050N3TR-E

STMicroelectronics, Inc

SOT-223

VNB35NV04TR-E

STMicroelectronics, Inc

TO-263

VN7007AHIR

STMicroelectronics, Inc

TO252-7

VNV35N07

STMicroelectronics, Inc

HSOP10

VND5050AJTR-E

STMicroelectronics, Inc

HSSOP12

VND5E160AJTR-E

STMicroelectronics, Inc

HSSOP12

VNN7NV04PTR-E

STMicroelectronics, Inc

SOT223

VN7004CLHTR

STMicroelectronics, Inc

TO-252