



The Future of Analog IC Technology®

EV6532-R-00A 5V to 60V, Three-Phase Brushless DC Motor Pre-Driver Evaluation Board

DESCRIPTION

The EV6532-R-00A is an evaluation board for the MP6532GR, a three-phase BLDC motor pre-driver.

It operates from a supply voltage of up to 60V. It is configured to drive three half-bridges consisting of six N-channel Power MOSFETs. The rotor position information is provided by the Hall sensors assembled in the motor and the driving control signals are generated by the external controller, such as MCU, FPGA, etc.

ELECTRICAL SPECIFICATIONS

| Parameter | Symbol | Value | Units |
|---------------|-----------------|----------|-------|
| Input Voltage | V _{IN} | 5 - 60 | V |
| OC_REF | OC_REF | 0.1 - 2 | V |
| Hall Voltage | V _H | 3.3 or 5 | V |

FEATURES

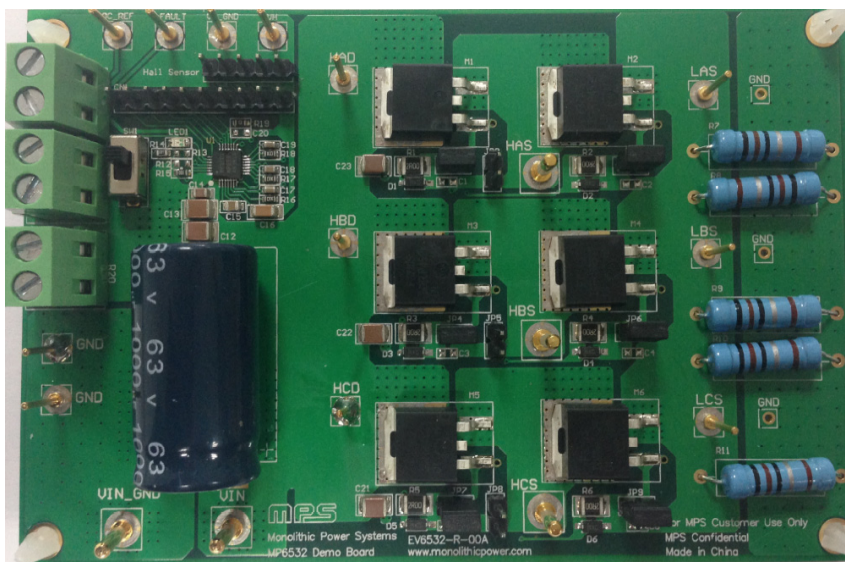
- Wide 5V to 60V Input Voltage Range
- Programmable OCP Threshold
- Support 100% Duty Cycle Operation
- OCP, OTP
- Fault Indication Output

APPLICATIONS

- Three-Phase Brushless DC Motors and Permanent Magnet Synchronous Motors
- Power Drills
- Impact Drivers
- E-Bike

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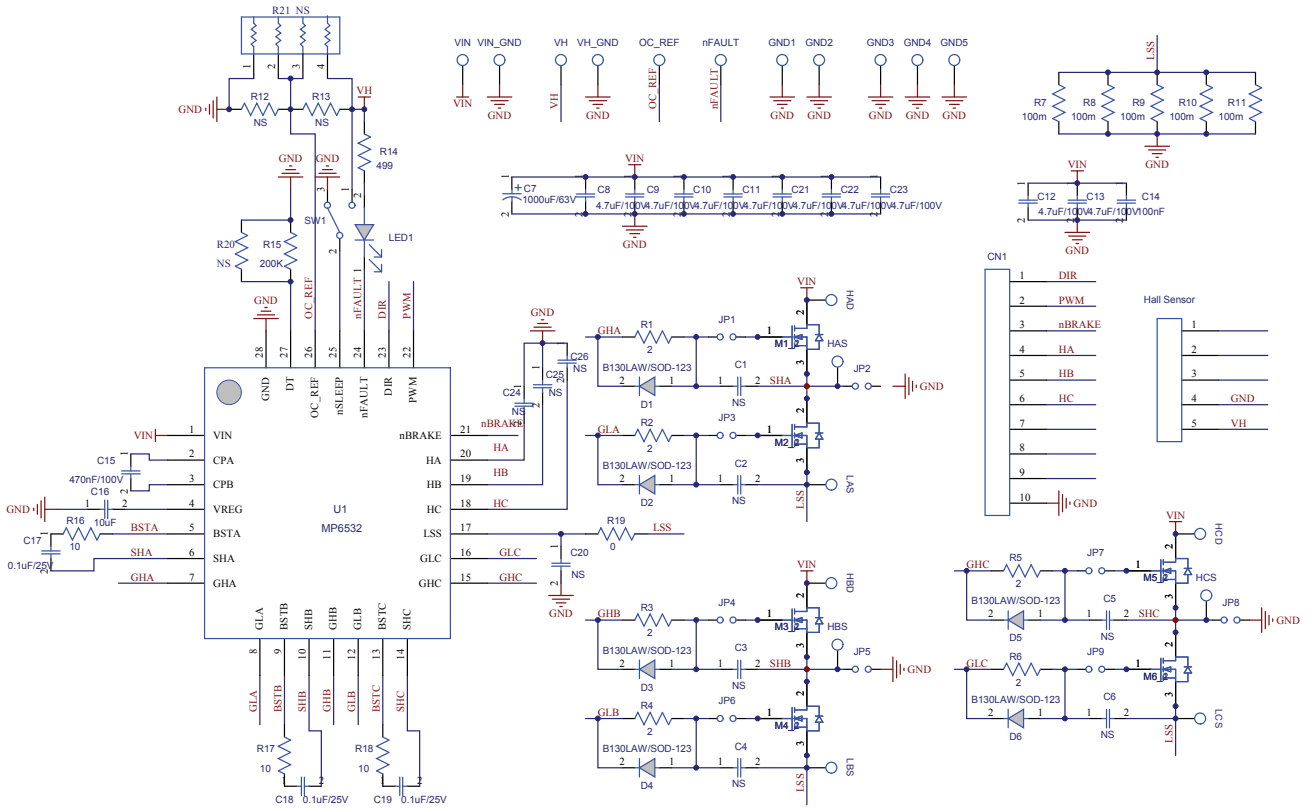
EV6532-R-00A EVALUATION BOARD



(L x W x H) 4.68" x 3.12" x 0.4"
(11.7cm x 7.8cm x 1cm)

| Board Number | MPS IC Number |
|--------------|---------------|
| EV6532-R-00A | MP6532GR |

EVALUATION BOARD SCHEMATIC



EV6532-R-00A BILL OF MATERIALS

| Qty | RefDes | Value | Description | Package | Manufacturer | Manufacturer P/N |
|-----|---|---------|---|------------------|--------------|--------------------|
| 14 | C1,C2,C3,C4,C5, C6,C20,C24,C25, C26,R12,R13, R20,R21 | NS | | | | |
| 1 | C7 | 1000µF | Electrolytic Cap. 63V | DIP | Jianghai | CD263-63V1000 |
| 9 | C8,C9,C10,C11, C12,C13,C21, C22,C23 | 4.7µF | Ceramic Cap. 100V, X7S | 1210 | TDK | C3225X7S2A475K |
| 1 | C14 | 100nF | Ceramic Cap. 100V, X7R | 0805 | TDK | CGA4J2X7R2A104K |
| 1 | C15 | 470nF | Ceramic Cap. 100V, X7R | 0805 | Murata | GRM21BR72A474KA73L |
| 1 | C16 | 10µF | Ceramic Cap. 25V, X5R | 1206 | Murata | GRM31CR61E106KA12L |
| 3 | C17,C18,C19 | 0.1µF | Ceramic Cap. 25V, X7R | 0603 | Murata | GRM188R71E104KA01D |
| 6 | R1,R2,R3,R4, R5,R6 | 20Ohm | Film Resistor. 1% | 1210 | Yageo | RC1210FR-072RL |
| 5 | R7,R8,R9,R10, R11 | 100mOhm | Resistor. 2W | DIP | 闽达 | |
| 1 | R14 | 499Ohm | Film Resistor. 1% | 0603 | Yageo | RC0603FR-07499RL |
| 1 | R15 | 200k | Film Resistor ,1% | 0603 | Yageo | RC0603FR-07200KL |
| 3 | R16,R17,R18, | 10Ohm | Film Resistor ,1% | 0603 | Yageo | RC0603FR-0710RL |
| 1 | R19 | 0Ohm | Film Resistor ,1% | 0603 | Yageo | RC0603FR-070RL |
| 6 | D1,D2,D3,D4,D5, D6 | | Schottky Diode. 30V, 1A | SOD-123 | Diodes | B130LAW-7-F |
| 6 | M1,M2,M3,M4, M5,M6 | | N-channel MOSFET, 100V,57A, Qg=130nC, 23mOhm@Vgs=10V, Id=28A | TO-263 | IR | IRF3710STRLPBF |
| 1 | LED1 | | LED. 红光 | 0805 | Bright LED | BL-HUF35A-TRB |
| 1 | SW1 | | Button | | | SS-12D01EG4 |
| 9 | JP1,JP2,JP3,JP4, JP5,JP6,JP7, JP8,JP9 | | 2PIN. 2.54MM | | | 61304011121 |
| 6 | JP1,JP3,JP4,JP6, JP7,JP9 | | 2.54MM Short Jumper | | | 60900213421 |
| 1 | CN1 | | 10PIN. 2.54MM | | | 61304011121 |
| 1 | Hall Sensor | | 5PIN. 2.54MM | | | 61304011121 |
| 5 | VIN, VIN_GND, HAS, HBS, HCS | | 2.0 公针 | | | |
| 12 | OC_REF, nFAULT,VH_GND ,VH,GND,GND, HAD,HBD,HCD, LAS,LBS,LCS | | 1.0 公针 | | | |
| 1 | U1 | | Three-Phase BLDC Motor Pre-Driver | QFN28 (4x4mm) | MPS | MP6532GR |

