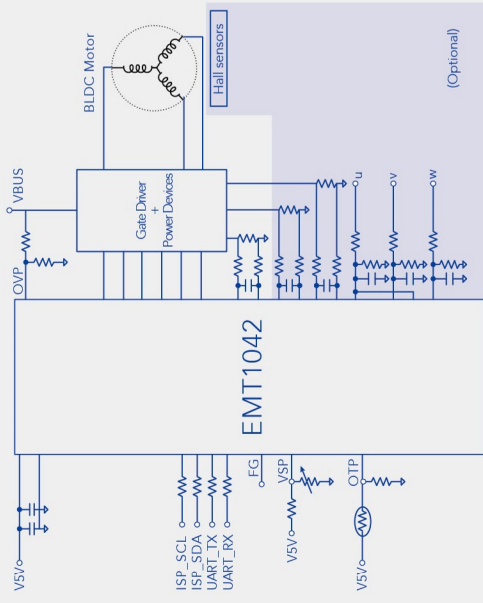


BLDC SINE-WAVE MOTOR CONTROLLER

The demand of using motor control ASIC to optimize control performance is extremely increasing. Hence, the new EMT1042 is announced!

The EMT1042 integrates an 8051 core with high-performance specific peripherals and proprietary MAU(Motor Arithmetic Unit) to perform excellent sine-wave motor control, as well as reducing external components, PCB size, and BOM cost.

Undervoltage-lockout (UVLO), over current protection (OCP) and locked-rotor protections are also integrated.



Typical Application Circuit

KEY BENEFITS & FEATURES

- **High performance 8051 MCU inside**
- **Memory size**
 - 32 KByte Flash program memory and 128 Byte x2 user programmable Flash
 - 4 KByte XRAM and 256 Byte IRAM
- **8 channels 750Ksps 12bit ADC**
- **16-bit PWM generator with dead time control**
- **Hardware Multiplication and Division Units (MDU) supports signed/unsigned 32x32, 16x16, 32/16, 16/16**
- **Built in 3 OPAs(PGA, max. 20x gain) & 5 comparators**
- **1 channel 12bit capture (PWMIN)**
- **E-TSSOP-28L, or compact WQFN4x4-28L package**

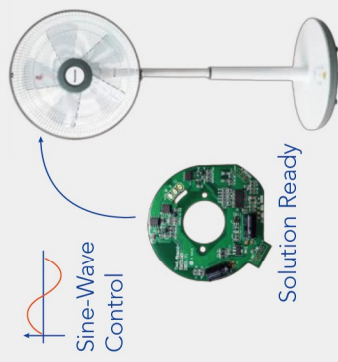
MAU

- **Supports sensed and sensorless, square and 180°sine-wave algorithms**
 - Sensorless + 1 or 3 shunts
 - 3 Hall ICs + 1 or 3 shunts
 - 1 Hall IC + 1 shunt
- **Space Vector PWM (SVPWM)**
- **Back-EMF Zero Cross Detection**
- **Current Zero Cross Detection**
- **Current Phase Compensator**
- **Initial Position Detection (IPD)**

IDEAL FOR

Pedestal/Floor/Ceiling/Tower/Bladeless fan

- **Portable air cooler**
- **Ventilation fan**
- **Hair/Hand dryer**
- **Air purifier**
- **Range hood**
- **Power tool**
- **.... and more.**



DEVELOPMENT TOOLS

Both of the hardware EVB and the motor tuning software which can visualize the instant data of each variable are available for engineers to optimize their motor control parameters and accelerate project development.



CONTACT

- Sales Representative - Sugar Lai, Email: HCLai@esmt.com.tw
- Marketing - Stanley Huang, Email: YTHuang1@esmt.com.tw

H-BRIDGE DRIVER WITH INTEGRATED NMOS

Complex systems require straightforward solutions to streamline the design. ESMT's EHB0528 that consists of gate drivers and N-MOSFETs offers an integrated motor driver solution to reduce the space occupied on the PCB as well as reduce cost, improve system efficiency, and increase overall system reliability. The H-bridge driver is expert's choice.

The EHB0528 device can supply 1A of output current and operate on a motor power supply voltage from 3V to 11V. The device has 2 PWM inputs (IN1/IN2) to control a motor spinning forward or reverse. The interface is compatible with industry-standard devices.

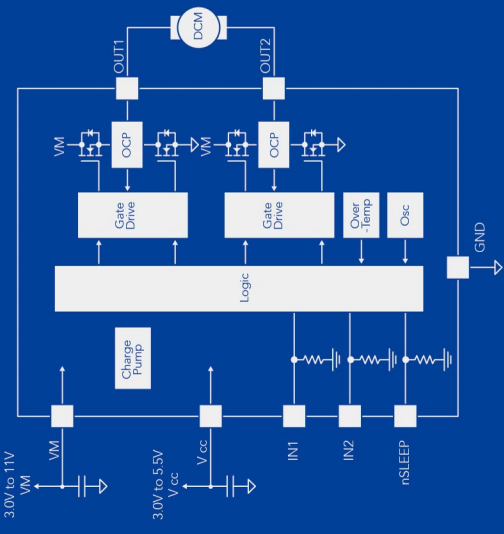
Internal shutdown functions are provided, including protections of over current, short circuit, under voltage lockout, and over temperature.

KEY BENEFITS & FEATURES

- **Low MOSFET On-Resistance:** HS+LS 1Ω
- **1 Amp Drive Current**
- **Input PWM freq. up to 250 kHz**
- **Separate Motor and Logic Supply Pins**
 - Motor side voltage (VM): 3.0V ~ 11V
 - Control side (VCC): 3.0V ~ 5.5V
- **Extra Low Sleep-Mode Current Consumption**
 - 120nA Sleep mode current
- **Small Package and Footprint**
 - TDFN 2x2-8 with Thermal Pad
- **Complete Protection Functions**
 - Under Voltage Lockout (UVLO)
 - Over Current Protection (OCP)
 - Short Circuit Protection (SCP)
 - Thermal Shutdown (TSD)

CONTACT

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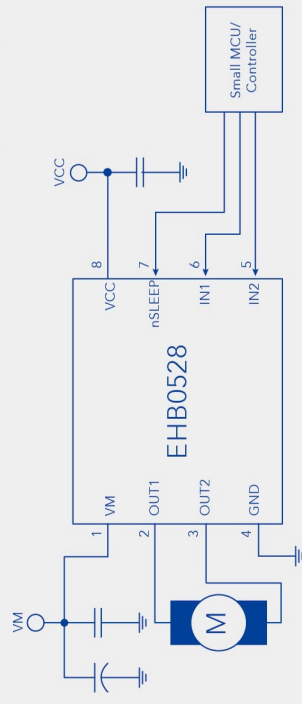


IDEAL FOR

Consumer products with DC motor and low-voltage or battery-powered motion control, such as:

- Cameras DSLR Lens
- Fan/Electric Pump
- Robot/Servo
- Medical Device
- and more.

EASY TO USE



Typical Application Circuit

DEVICES SUMMARY

Order Code	VM Range	Current	HS+LS R _{DS(on)}	Package	Packing
EHB0528	3.0 ~ 11.0V	1A	1Ω	TDFN-8L	Tape & Reel
EHB0529	3.0 ~ 11.0V	1.8A	0.3Ω		