

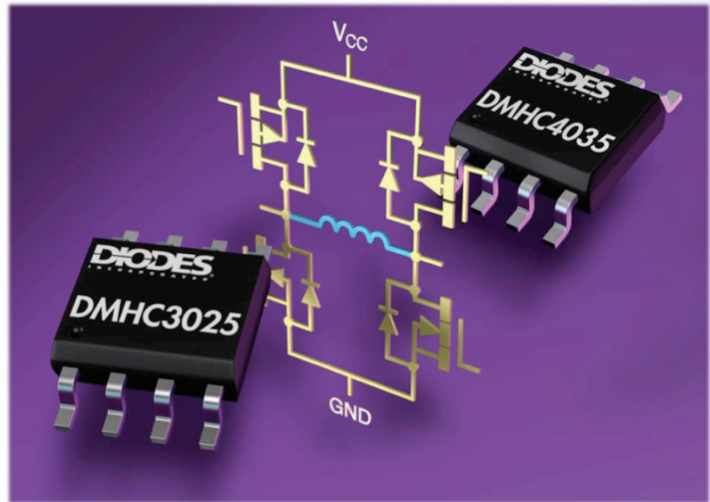


# MOSFET H-Bridge Shrinks Footprint

Diodes Incorporated has extended its family of dedicated MOSFET H-bridges with the DMHC3025LSD and DMHC4035LSD designed for space limited single-phase brush and brushless motor driving and inductive wireless charging circuits.

These 30V and 40V rated MOSFETs have low  $R_{DS(on)}$  performance allowing them to operate under a high 70°C ambient temperature, whilst still supporting continuous currents of 3A and 2A respectively, thereby accommodating worst-case motor stall currents.

For samples and quotations please contact your nearest Diodes sales office or representative.



## The Diodes Advantage

**The MOSFET H-bridges co-package 2x nMOS and 2x pMOS that can replace four single devices or two sets of complementary devices.**

### Reduce Footprint

Using single SO8 package, with 5mm x 6mm footprint, these H-bridges can save PCB space, reduce component count, and assembly costs.

### Low $R_{DS(on)}$

<50mΩ minimises conduction losses enabling the H-bridges to tolerate high continuous current under motor stall conditions.

### High Pulsed Current

30A peak pulse capability allows for a high in-rush current to be drawn safely during the start-up of the inductive load.

### Max Drain Voltage

40V and 30V  $V_{DSS}$  provides sufficient headroom for the intended 24V and 12V  $V_{CC}$  rail voltages.

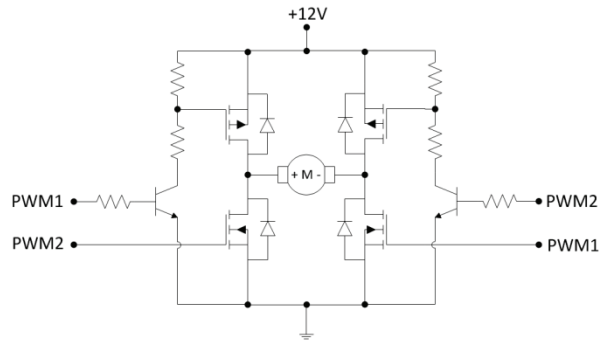
## Applications

Full H-bridge commonly found with 12V and 24V rails which includes:

- Brushed DC Motors
- Single Phase Brushless DC (BLDC) Motors
- Inductive Wireless Charging



## H-bridge Motor Driving Application



Typical 12V full H-Bridge driving a brushed DC motor

## MOSFET H-Bridge Portfolio

Part Number	Polarity	V <sub>DSS</sub> (V)	V <sub>GSS</sub> (V)	I <sub>D</sub> (A)	I <sub>DM</sub> (A)	R <sub>DS(on)</sub> max @4.5V (mΩ)	R <sub>DS(on)</sub> max @10V (mΩ)	Q <sub>g</sub> typ @10V (nC)
DMHC3025LS D	2xN	30	±20	6.0	60	40	25	11.7
	2xP	-30	±20	-4.2	-30	80	50	11.4
DMHC4035LS D	2xN	40	±20	4.5	25	58	45	12.5
	2xP	-40	±20	-3.7	-15	100	65	11.1
ZXMHC6A07N 8	2xN	60	±20	1.8	7.1	350	250	3.2
	2xP	-60	±20	-1.4	-6.0	600	400	5.1
ZXMHC10A07 N8	2xN	100	±20	1.0	4.3	900	700	2.9
	2xP	-100	±20	-0.8	-3.6	1450	1000	3.5

Refer to: [http://www.diodes.com/catalog/h\\_bridge\\_mosfets\\_1042/](http://www.diodes.com/catalog/h_bridge_mosfets_1042/)

## Motor Driving Solutions

Diodes Inc also does ZXBM102x single-phase and ZXBM200x two-phase controllers and Hall sensors  
Refer to: [http://diodes.com/catalog/motor\\_control\\_199/](http://diodes.com/catalog/motor_control_199/) and <http://www.diodes.com/catalog/sensors/>