

Multichannel Half-bridge Driver

FEATURES

- 12 Half-bridge Outputs
- 4.5V to 32V Operating Voltage
- 6A Maximum Current for Paralleled Output
- Support 3.3V and 5V Logic Inputs
- Sleep Mode with Low Power (1.5μA)
- 5MHz 16-bit SPI Communication with Daisy Chain Function
- Configure PWM Generator Frequency and Duty Ratio through SPI
- Integrate Multiple Protection and Diagnostics
 - nFAULT Pin Output
 - VM Undervoltage Lockout (UVLO)
 - VM Overvoltage Protection (OVP)
 - Logic Power-on Reset (POR)
 - Overcurrent Protection (OCP)
 - Open Load Detection (OLD)
 - Thermal Warning and Thermal Shutdown (OTW/OTSD)

APPLICATIONS

- LED Applications
- HVAC Flap DC Motors
- Multiple Brushed DC Motors and Solenoid Valve
- Side Rearview Mirror Adjustment and Rearview Mirror Folding

PRODUCT DESCRIPTION

The MS31912 is a multichannel half-bridge driver, which is integrated with multiple diagnostics. The MS31912 has 12 half-bridges. Every half-bridge supports 1A current when operating voltage is below 13.5V. Every half-bridge supports 0.5A current when operating voltage is above 13.5V. 6A maximum current can be supported in parallel mode. In addition, every half-bridge is fully controllable to achieve forward, reverse, coasting and braking operations. This driver also supports 5MHz serial peripheral (SPI) and features daisy chain function for complete configuration and detailed diagnostics. And the driver is integrated with four PWM generators, which selects PWM frequency and duty ratio for every channel by reflecting to any half-bridges through registers. Moreover, this driver is integrated with multiple protection and diagnostics, including undervoltage lockout, overvoltage protection, overcurrent protection, open load detection and thermal shutdown

ORDERING GUIDE

Part Number	Package	Marking
MS31912TE	eTSSOP24	MS31912TE
MS31912TEA	eTSSOP24	MS31912TEA