

## H-Bridge Motor Driver Automotive 18-Pin(16+2Tab) PowerSO T/R

**Manufacturer:** [STMicroelectronics, Inc](#)

**Package/Case:** SSOP16

**Product Type:** Driver ICs

**Lifecycle:** Active

L9958SBTR Image

Images are for reference only

[Inquiry](#)

### General Description

The L9958 is an SPI controlled H-Bridge, designed for the control of DC and stepper motors in safety critical applications and under extreme environmental conditions. The H-Bridge is protected against over temperature, short circuits and has an undervoltage lockout for all the supply voltages Vs and Vdd, and for overvoltage on Vdd. All malfunctions cause the output stages to go tristate. Detailed failure diagnostics on each channel is provided via SPI: short circuit to battery, short circuit to ground, short circuit overload, over temperature. Open-load can be detected in ON condition, for the widest application ranges. Current regulation threshold can be set by SPI from 2.5 A to 8.6 A (Typ.), in 4 steps. Guaranteed accuracy is  $\pm 10\%$  on all temp range, using an external reference resistor with 1% accuracy over all temp range. Current limitation threshold is linearly reduced by temperature over 165 °C. and a thermal warning bit is set by SPI. The H-Bridge contains integrated free-wheel diodes. In case of free-wheeling condition, the low side transistor is switched on in parallel of its diode to reduce power dissipation. A multiple wire bonding technique, as well as ST proprietary package design is making L9958 compatible with three power packages, for maximum flexibility: PowerSO-20 package (medium power, JEDEC standard MO166); PowerSO16 package (medium power, lower cost); PowerSSO24 package (low power, very low cost JEDEC standard MO271A).

## Key Features

Programmable current regulation peak threshold by SPI up to 8.6 A typ.

Operating battery supply voltage 4.0 V to 28 V

Operating V<sub>dd</sub> supply voltage 4.5 V to 5.5 V

All pins withstand 19 V, V<sub>s</sub> and output pins withstand 40 V

Full path R<sub>on</sub> from 100 mΩ (at T<sub>j</sub> = -40 °C) to 300 mΩ (at T<sub>j</sub> = 150 °C)

Logic inputs TTL/CMOS-compatible

Operating frequency up to 20 kHz

16-bit SPI interface for configuration/diagnostics, daisy chain capability

Over temperature and short circuit protection

V<sub>S</sub> undervoltage disable function

V<sub>DD</sub> undervoltage and overvoltage protection

V<sub>DD</sub> overvoltage detection

Open-load detection in ON condition

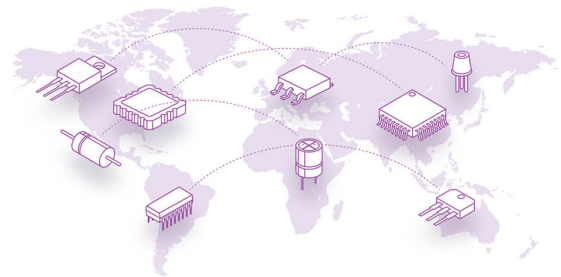
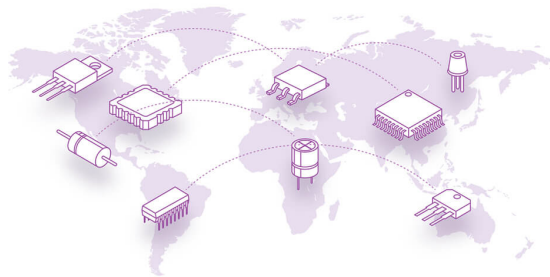
Full diagnostics in OFF state

Enable and disable input

Low stand by current (

Voltage and current slew-rate control for low EMI, programmable through SPI

Available in three power packages



## Recommended For You

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### L9651

STMicroelectronics, Inc  
HSOP20

### L9678PTR

STMicroelectronics, Inc  
LQFP-64

### L9904

STMicroelectronics, Inc  
SOP20

### L9822EPD

STMicroelectronics, Inc  
HSOP20

### L9951

STMicroelectronics, Inc  
HSSOP36

### L9680TR

STMicroelectronics, Inc  
LQFP100

### L9949

STMicroelectronics, Inc  
HSOP20

### L9950

STMicroelectronics, Inc  
HSSOP36

### L9848

STMicroelectronics, Inc  
SOP28

### L9950XP

STMicroelectronics, Inc  
SSOP36

### L9952GXP

STMicroelectronics, Inc  
SSOP36

### L9733XP

STMicroelectronics, Inc  
SSOP28

### L9651-TR

STMicroelectronics, Inc  
HSOP20

### L9374IRLF

STMicroelectronics, Inc  
SSOP36

### L9952GXPTIR

STMicroelectronics, Inc  
SSOP36