Applications
- Electronic throttle control
- DC motor control
- Industrial motors and actuators

Overview
The MC33926 is a monolithic H-Bridge power IC designed primarily for automotive electronic throttle control, but is also applicable to many low-voltage DC servo motor control applications. It is particularly well suited for the harsh environment found in automotive powertrain systems. Within the vehicle, the MC33926 is designed to drive DC motor or bi-directional solenoid controlled actuators such as throttle control or exhaust gas recirculation actuators.

The MC33926 provides a robust solution for a tough environment in a very compact and easy to use package. The simple inputs allow precise control of the load and do not give up when the going gets tough. The very compact PQFN package is thermally enhanced to provide superior performance making this an ideal solution for space-oriented applications.
Features

- H-Bridge configuration for bi-directional motors
- 225 mΩ maximum RDS\textsubscript{ON} @ 150°C (for each H-Bridge MOSFET)
- Over current limiting (regulation) via internal constant-off-time PWM
- Output short circuit protection (short to \(V_{PWR}\) or ground)
- Temperature dependent current limit threshold reduction
- 3 and 5V TTL/CMOS logic compatible inputs
- Current feedback
- Sleep mode current < 50 μA

Benefits

- Robust solution for harsh environments
- Compact, easy to use package
- Protected against common failure conditions

Freescale Semiconductor is a leading provider for over 25 years of high-performance products that use SMARTMOS\textsuperscript{TM} technology that combines digital, power and standard analog functions. The company supplies analog and power management ICs for the automotive, consumer, networking and industrial markets. Freescale’s analog and power ICs complement our broad portfolio of microcontrollers, microprocessors, ZigBee\textsuperscript{®} technology, digital signal processors, sensors, development tools and support to offer system solutions to customers.

Parametric Table

<table>
<thead>
<tr>
<th>Performance</th>
<th>Typical Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>H-Bridge outputs</td>
<td>2</td>
</tr>
<tr>
<td>Outputs RDS\textsubscript{ON}</td>
<td>120 mΩ</td>
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<tr>
<td>PWM</td>
<td>20 KHz</td>
</tr>
<tr>
<td>ESD</td>
<td>2 KV</td>
</tr>
<tr>
<td>Control/communication</td>
<td>Parallel</td>
</tr>
<tr>
<td>Operating Voltage</td>
<td>8–28V</td>
</tr>
</tbody>
</table>

Orderable Part

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Temp. Ranges ((T_A))</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>MC33926PNB/R2</td>
<td>-40°C to +125°C</td>
<td>32 PQFN</td>
</tr>
</tbody>
</table>

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