Features

- Drives one bipolar stepper motor
- Sensorless stall detection
- Programmable chopper current up to 2*190mA
- Micro-stepping capability
- Supply voltage 7V to 18V (reduced 6V to 25V, 42V)
- Sleep mode current typically 30µA
- 8 bit micro-controller with 256 Byte RAM
- 8 KByte FLASH memory (FLASH version)
- 8 KByte ROM (ROM version)
- 64 Byte customer EEPROM
- Potentiometer input and digital I/O interface DI1,2, DO
- LIN2.x transceiver compatible to LIN2.2A, LIN2.1, LIN2.0, LIN1.3 and SAE-J2602-2
- LIN auto-addressing
- Junction temperature range -40°C to +150°C

Applications

- Universal bipolar stepper motor actuators
- HVAC flap actuator
- Small grill shutter
- Water valve actuator
- Multi purpose LIN slave

General Description

This bipolar stepper-motor actuator provides a sensorless end position detection which also is able to detect a blocked motor due to mechanical problems. This function, called “stall detection” is performing within a wide range of motors, supply voltages and ambient temperatures. The stepper motor coil currents can be controlled by the integrated micro-controller and a current chopper principle. For precise absolute positioning it is possible to supply and read out a potentiometer. The state of the art LIN 2.2Rev.A / LIN2.1 transceiver with auto-baud functionality is downwards compatible to LIN1.3. For fast customer’s end-of-line FLASH firmware programming, the FLASH-version is prepared with a JTAG interface. Alternatively a partial or complete FLASH update can be done via high-speed-LIN communication.

Ordering Information

<table>
<thead>
<tr>
<th>Product ID</th>
<th>Features</th>
<th>Package</th>
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</thead>
<tbody>
<tr>
<td>E523.60</td>
<td>8k FLASH</td>
<td>QFN32L6</td>
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<tr>
<td>E523.61</td>
<td>8k ROM</td>
<td>QFN20L5</td>
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Typical Application Circuit