

Features

- ▶ Slew controlled gate drive of IGBT
- ▶ Soft switch-on of primary coil current
- ▶ Self timed soft shut-down to prevent destruction of coil or IGBT due erroneous control input
- ▶ Ground shift tolerant input: ± 1.5 V
- ▶ Supply voltage: 5.5V ... 28V
- ▶ Compact assembly close to pencil coil due to few components
- ▶ Qualified according to AEC-Q100

Applications

- ▶ Ignition control for petrol engines

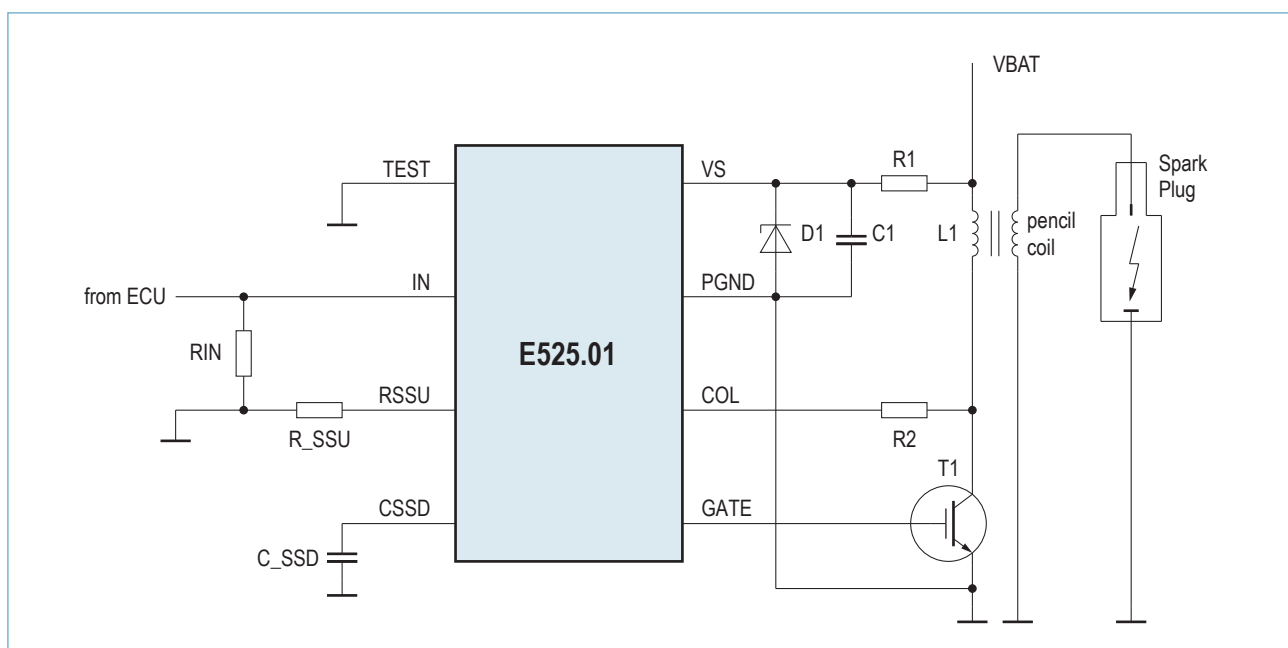
Ordering Information

Product ID	Temp. Range	Package
E525.01	-40°C to +140°C	SOIC8N

General Description

The E525.01 is a low-cost control IC for use in a spark plug ignition circuit for petrol engines. Together with an insulated gate bipolar transistor (IGBT) the IC controls the energy in a pencil coil used to trigger the ignition spark. Only a few external components are needed for the complete electronic circuit, which can be closely integrated to the spark plug device by this. The IC is controlled by a digital signal at IN coming from an ECU. The device provides the gate drive current to the IGBT and the necessary protection at output GATE. Additional protection features of this IC include “soft start-up” (SSU) and “soft shut-down” (SSD).

SSU limits the rate of change of the IGBT collector current during increase of magnetic energy in the primary coil. This measure will avoid unwanted ignition sparks due to too high voltage induction during current ramp-up. It allows for saving of high voltage protection diodes in the (secondary) output branch of the ignition coil. SSD is a protection function which allows to shut-off smoothly the collector current without inducing high voltage for spark generation in the secondary coil, in case no switch-off command was received at IN from the ECU after an allowed maximum on-time.



This document contains information on a product under development. ELMOS Semiconductor AG reserves the right to change or discontinue this product without notice.

ELMOS Semiconductor AG – Headquarters
Heinrich-Hertz-Str. 1 | 44227 Dortmund | Germany
Phone +49 (0) 231-75 49-100 | Fax +49 (0) 231-75 49-159
sales@elmos.de | www.elmos.de

Note ELMOS Semiconductor AG (below ELMOS) reserves the right to make changes to the product contained in this publication without notice. ELMOS assumes no responsibility for the use of any circuits described herein, conveys no licence under any patent or other right, and makes no representation that the circuits are free of patent infringement. While the information in this publication has been checked, no responsibility, however, is assumed for inaccuracies. ELMOS does not recommend the use of any of its products in life support applications where the failure or malfunction of the product can reasonably be expected to cause failure of a life-support system or to significantly affect its safety or effectiveness. Products are not authorized for use in such applications.

Copyright © 2010 ELMOS. Reproduction, in part or whole, without the prior written consent of ELMOS, is prohibited.