



## SPIDER Low-Side (4 channel) TLE 7231G/33G

### SPI Driver for Enhanced Relay Control

The Infineon SPIDER low-side (4 channel) family consists of two family members. They are both four-channel SPI-controlled low-side switches especially designed to drive automotive relays.

The TLE 7231G features one direct input which can be individually routed to each output. The TLE 7233G is equipped with 4 direct input pins to allow PWM (pulse with modulation) operation and direct control of every channel. Furthermore the integrated Limp Home feature allows to address safety critical applications.

All devices are protected against short circuit and overload and especially designed to fulfill the requirements of the harsh automotive environment.

### Application:

- Lowside driven automotive Relays
- Small LEDs and other small signal loads
- Unipolar stepper motors



[www.infineon.com/spider](http://www.infineon.com/spider)

### Key Features:

- scalable by current capability and feature set
- SPI communication
- Short circuit and over load protection, thermal shutdown

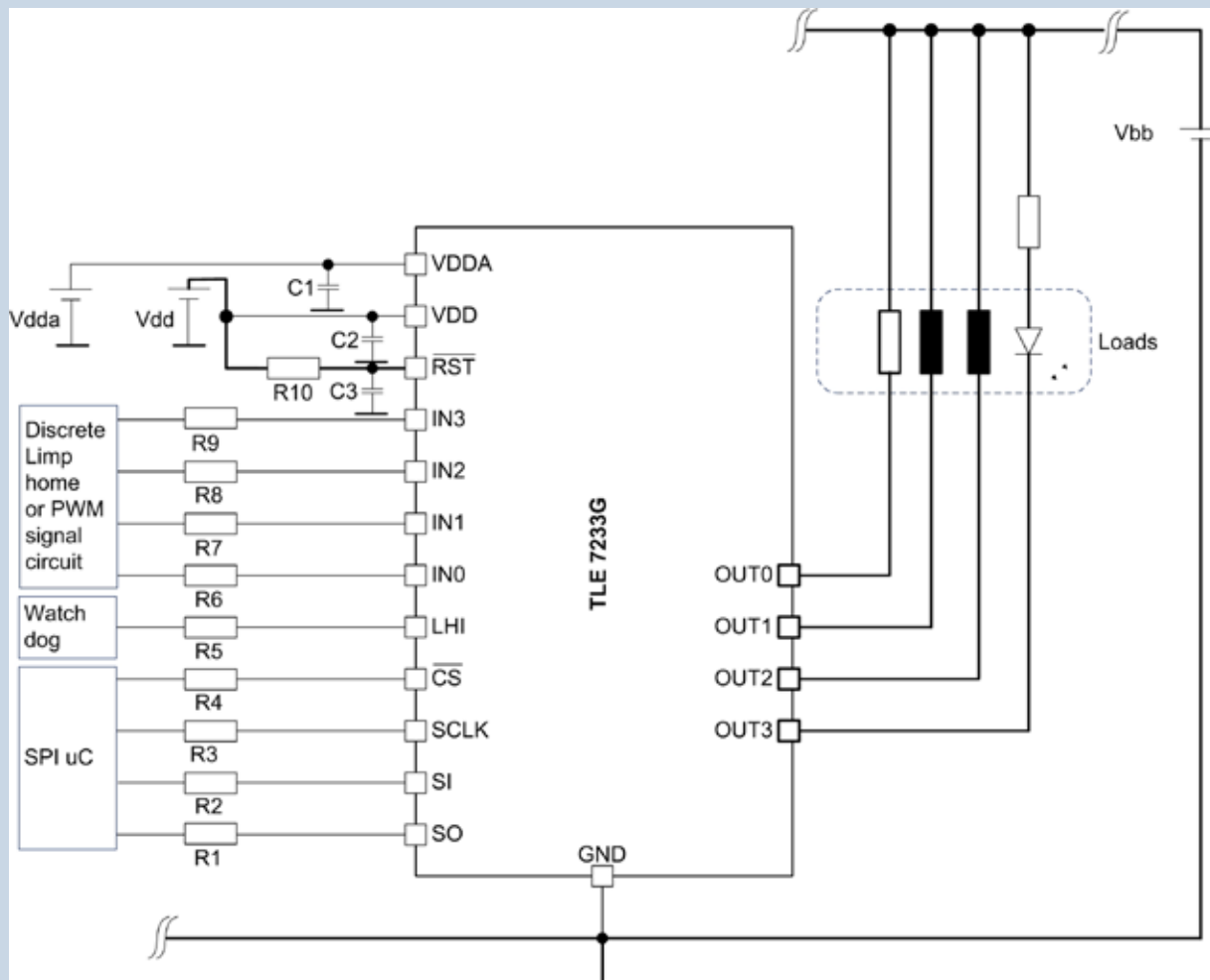
### Key Benefits:

- Reduced microcontroller I/Os
- Small package to reduce board space
- Possibility to address safety critical applications under harsh automotive conditions

# SPIDER Low-Side (4 channel)

## TLE 7231G/33G

TLE 7233G Application Diagram



### SPIDER LS (4 channel) family

Product	Nominal Current	$R_{ds, on}$ (typ. @25°C)	Features	Package
TLE 7231G	4*320mA	4*1,0Ω	one direct input	PG-DSO14
TLE 7233G	4*390mA	4*1,0Ω	Limp Home functionality 4 direct inputs	PG-SSOP24

Published by  
Infineon Technologies AG  
85579 Neuburg, Germany

© 2010 Infineon Technologies AG.  
All Rights Reserved.

Visit us:  
[www.infineon.com](http://www.infineon.com)

Order Number: B127-H9512-X-X-7600  
Date: 08 / 2010

#### ATTENTION PLEASE!

The information given in this document shall in no event be regarded as a guarantee of conditions or characteristics ("Beschaffenheitsgarantie"). With respect to any examples or hints given herein, any typical values stated herein and/or any information regarding the application of the device, Infineon Technologies hereby disclaims any and all warranties and liabilities of any kind, including without limitation warranties of non-infringement of intellectual property rights of any third party.

#### INFORMATION

For further information on technology, delivery terms and conditions and prices please contact your nearest Infineon Technologies Office ([www.infineon.com](http://www.infineon.com)).

#### WARNINGS

Due to technical requirements components may contain dangerous substances. For information on the types in question please contact your nearest Infineon Technologies Office. Infineon Technologies Components may only be used in life-support devices or systems with the express written approval of Infineon Technologies, if a failure of such components can reasonably be expected to cause the failure of that life-support device or system, or to affect the safety or effectiveness of that device or system. Life support devices or systems are intended to be implanted in the human body, or to support and/or maintain and sustain and/or protect human life. If they fail, it is reasonable to assume that the health of the user or other persons may be endangered.