The TLE 7718/7738 is intended to be used in an Automotive Restraint control module. The device allows individual control of up to eight squib devices in CrosSave™ standard configuration. It provides also a communication solution with a Master µC device (MCU) via a 16-Bit full duplex 8 MHz SPI interface. The IC is equipped with the required hardware to avoid or enable deployment as well as provide a full list of diagnostic functions.

Applications
- Automotive Restraint Applications

Features
- Eight independent squib channels with high-side and low-side switch
- Eight independent programmable deployment firing timer
- Digital inputs allow independent safing logic to prevent/enable deployment
- All digital I/O pins are 3.3 V and 5 V compatible
- 16-Bit full duplex 8 MHz SPI
- Multiplexed analog output for signal monitoring

Embedded Protection Functions
- 40 V capability of all device pins (except all Ground and Return pins)
- Thermal and short circuit protection for each switch
- Current limitation for each firing loop
- Average temperature measurement

Embedded Diagnostic Functions
- High accuracy squib resistance measurement
- Leakage detection to GND and Battery on feed and return pins
- Measurement of internal and external voltages
- Deployment Firing Timer check (DFT check)
- Switch Test of high-side and low-side driver
- High-side gate-driver supply test

www.infineon.com/restraint-system-IC

Automotive Power
**CrosSave™ – Safer with two Dies in one Package**

**Product Brief**

**Increased Safety using two different technologies**

**Decoupling with One Device**
- reduced Bill of Material (BoM)

**Small 52-pin Power Package**
- saving board space

**Improved System FMEA**
- more safety in one package

---

### Product Summary

<table>
<thead>
<tr>
<th>Type</th>
<th>Sales Code</th>
<th>Description</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>TLE 7718</td>
<td>Available upon request</td>
<td>8 Loop Firing IC (1.75 A @ 0.5 ms)</td>
<td>PG-DSO-52</td>
</tr>
<tr>
<td>TLE 7738</td>
<td>Available upon request</td>
<td>8 Loop Firing IC (1.2 A @ 2 ms)</td>
<td>PG-DSO-52</td>
</tr>
</tbody>
</table>

### System Overview

![System Diagram]

---

**Legal Disclaimer**

The information given in this Product Brief 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).

**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.

---

How to reach us:
http://www.infineon.com

Published by:
Infineon Technologies AG
81726 Munich, Germany
© Infineon Technologies AG 2006,
All Rights Reserved.

Published by Infineon Technologies AG