THE TLE 7729 – SatRIC™ – is a highly integrated interface IC specially designed for automotive restraint applications. The device, located in the ECU (Electronic Control Unit) of the airbag system, is able to receive data from different types of intelligent sensors like inertia and pressure sensor satellites for front-, side-, or rear-crash sensor applications. It provides a pre-regulated power supply voltage to the satellites over a twisted pair of wires. The satellite module transmits digital data to TLE 7729 by modulating the line current.

Applications
- Automotive Restraint Applications

Features
- 4 independent satellite receiver channels for current modulated data
- Each channel can support up to two satellites with a total of up to eight sensors
- Data rate 125 kBaud
- Support of 11-, 13-, 18-Bit Manchester 1 or 2 encoded messages
- Channel configuration in pairs (Bus Mode, Protocol Type)
- Supply of satellite channels via 4 independent voltage regulators
- Adjustable current level detection thresholds
- Asynchronous and synchronous data transmission modes
- All digital I/Os are 3.3 V and 5 V compatible
- 4 Digital outputs for voltage-converted received satellite signals
- 16-bit 8 MHz Serial Peripheral Interface (SPI)
- Embedded protocol handler for data preprocessing
- Small P-TSSOP-28 Package

Embedded Protection Functions
- Current limitation in case of satellite output shorted to GND or Battery
- Channel specific over-temperature shutdown

Embedded Diagnostic Functions
- Leakage detection to GND and Battery
- Ground loss detection
- Short to GND and open detection at every reference pins

www.infineon.com/restraint-system-IC

Automotive Power

Never stop thinking
Application Examples (Side Impact)

- **SatRIC™ (TLE7729)**
  - **Right Door**
  - **Left Doors**
  - **B-pillar**

Product Summary

<table>
<thead>
<tr>
<th>Type</th>
<th>Sales Code</th>
<th>Description</th>
<th>Package</th>
</tr>
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<td>TLE 7729</td>
<td>Available upon request</td>
<td>4 Channel Satellite Receiver</td>
<td>P-TSSOP-28</td>
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System Overview

- **Airbag ECU**
  - **Line 1**
  - **Line 2**
  - **Line 3**
  - **Line 4**

Legal Disclaimer

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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.

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