Telematics and infotainment

SMA131 acceleration sensor for motion detection

PRODUCT BENEFITS

- Target applications
  - Comfort access
  - Car key modules
  - Wake-up functionality
- Extremely flexible application options
- Cost-effective
- Ultra compact sensor design gives small footprint
- Low power consumption – also at system level
- Billion-fold applied technology (due to CE background)
- RoHS compliant and AEC-Q100 qualification

12-pin LGA package, 2 mm × 2 mm × 0.95 mm
**ultra compact**

acceleration sensor for automotive applications allows easiest integration.

**economical**

through its 2 power-safe modes, which give a very low power consumption.

**TECHNICAL CHARACTERISTICS**

<table>
<thead>
<tr>
<th>Measurement ranges</th>
<th>±2 g</th>
<th>4,096 LSB/g</th>
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</thead>
<tbody>
<tr>
<td>(sensitivity)</td>
<td>±4 g</td>
<td>2,048 LSB/g</td>
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<tr>
<td></td>
<td>±8 g</td>
<td>1,024 LSB/g</td>
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</tbody>
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- Digital resolution: 14 bit
- Non-linearity: ±0.5%
- Sensitivity temperature drift: 0.015 %/K
- Zero-point offset: ±50 mg
- Offset temperature drift: ±1 mg/K
- Band width: 8 Hz to 500 Hz
- Output noise density, rms: 0.12 mg/√Hz

**OPERATING CONDITIONS**

- Supply voltage (VDD): 1.62 to 3.6 V
- Supply current (normal operation): 130 μA
- Supply current (power-safe modes): 1 μA to 66 μA
- Operating temperature: −40 °C to +85 °C
- Interfaces: SPI

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1 Programmable
2 At +25 °C
3 Valid at full scale in 2 g setting
4 Over temperature (−40 °C to +85 °C), reference +25 °C
5 Features five power-safe modes