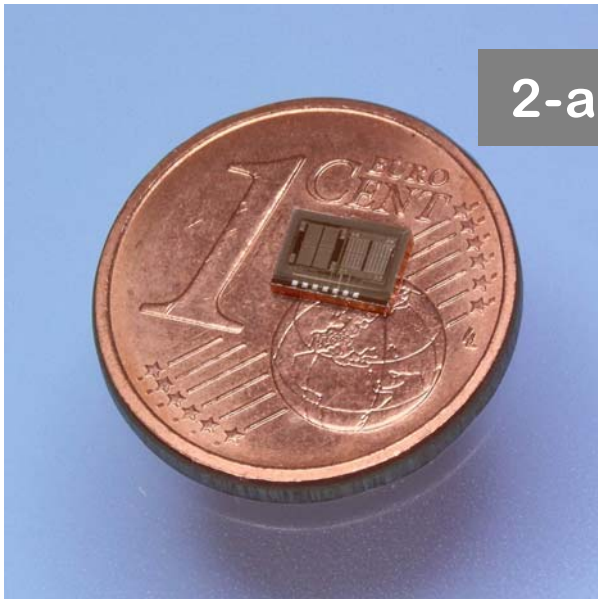


# AIM7E

## 2-axis Acceleration sensor



### Features and benefits

- Single crystal silicon based
- 2-axis acceleration measurement (x and y)
- Ultra low cross axis sensitivity due to HARMS technology
- Over damped frequency response
- Low noise
- Excellent stability over temperature
- Excellent reliability against overload

### PERFORMANCE DATA (capacitive sensor element)

| Parameter <sup>1)</sup>                          | Conditions                        | Min. | Typ. <sup>2)</sup> | Max.   | Units  |
|--------------------------------------------------|-----------------------------------|------|--------------------|--------|--------|
| Measurement range                                |                                   |      | ± 1                |        | g      |
| Sensitivity                                      | full scale                        | 170  | 180                | 190    | fF/g   |
| Sensitivity <sup>3)</sup><br>temperature error   | -25...70°C<br>without calibration |      | 0.009              | 0.025  | %/K    |
| Zero-g Offset <sup>3)</sup><br>temperature error | -25...70°C<br>without calibration |      | ± 0.07             | ± 0.18 | fF/K   |
| Capacitance C <sub>0</sub>                       |                                   | 1330 | 1400               | 1450   | fF     |
| Total Capacitance                                | Parasitic Capacitance             |      | 9.5                |        | pF     |
| Cross axis sensitivity                           | x/y- versus z-direction           |      | 700:1              |        |        |
| Nonlinearity <sup>3)</sup>                       | full scale<br>without calibration | 0.2  | 0.5                | 0.9    | %      |
| Frequency response<br>-3 dB                      |                                   | 150  | 200                | 220    | Hz     |
| Recommended max.<br>measuring voltage            | RMS                               |      | 1.9                |        | V      |
| Noise density                                    | Calculated                        | 5.0  | 5.5                | 6.0    | µg/√Hz |
| Shock survival                                   | Bare chip                         | 2000 |                    |        | g      |
| Dimensions                                       | L x W x H                         |      | 3.95 x 3.05 x 0.73 |        | mm     |

1) Unless stated otherwise the performance data are for room temperature.

2) Typical specifications are not guaranteed.

3) Measured in combination with ASIC M777.04 (ELMOS Semiconductor)