

## **E909.06 – the user’s imagination sets the limit** ELMOS chip recognizes touch, approximation, and gesture



*Dortmund, 31 May, 2010: With the new and innovative ASSP E909.06, ELMOS presents a sensor system working on an optical and capacitive basis at the same time. Both systems can be used simultaneously and can exchange information among each other. It is therefore possible to combine the known advantages of a capacitive switch with a touchless recognition of gesture provided by optical sensorics. Even low-end SMD infrared LEDs facilitate a range of up to 30 centimeters.*

In this chip the patented measuring principle HALIOS® (High Ambient Light Independent Optical System) comes to use. It is not affected by extreme light or changing ambient light. In addition the new temperature stabilization device avoids distortion due to chip specific upturn and downturn of infrared LED intensity.

Possible applications are: HMI devices (Human Machine Interface) such as touchless on/off switches, a zoom function along the z-axis, or gesture-controlled direction recognition. The infrared sensors are virtually invisible: hidden behind a completely closed dark surface. Due to the detection before touching the switch, a corresponding symbol can be illuminated to indicate possible operation for instance. Examples like this one can be experienced and tested with the function demonstrator “HALIOS® ProxDimm light”.

The ELMOS IC E909.06 offers four independent sending channels, a special differential receiver input and the characteristic compensation channel, all in one compact QFN 5x5 32 Ld package. Furthermore the chip has eight digital input and output channels as well as an I<sup>2</sup>C and a SPI resp. LIN interface.

The system’s response time can be controlled quickly and easily by a software application. The actual measuring process consists of an energy-saving pulse package which takes about 250 µs/channel. Thereafter the received signal is available in the integrated 16-bit microcontroller for customer specific evaluation.

The evaluation of characteristic gestures enables the touchless control of devices and applications, e.g. for the automotive segment (qualification: AEC Q100), mobile phones, remote controls, and industrial and medical applications.

For more information, application notes, samples and the ProxDimm light, please send an e-mail with the subject “E909.06” to [sales@elmos.de](mailto:sales@elmos.de), visit our website, or call +49 231 7549 100.

*ELMOS Semiconductor AG is a developer and manufacturer of system solutions on semiconductor basis. For more than 25 years, our chips have made vehicles as well as industrial and consumer goods more performance and power efficient.*