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Miniaturized pressure sensor elements

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Rugged all-rounders

The sensor elements of the C32 family have dimensions of only 1.65 x 1.65 mm². EPCOS has equipped these new chips with optimized bond pads featuring offset test-pad structures for wafer probers. Like the successful C28 and C29 series, the miniaturized C32 variant allows the use of a glass substrate at chip level on both the upper and lower sides of the sensor elements. The glass substrate on the underside allows low-stress further processing of the chips with bonding and adhesive techniques for absolute and differential pressure measurements. The reference volume for absolute

pressure measurement is formed by an additional glass substrate on the upper chip side, thus allowing absolute pressure measurements in non-aggressive liquids and gases.

The sensor elements are designed for pressures of between 1 and 40 bar. They have a typical nonlinearity of 0.3 percent FS. The chip also has high cycling stability with drifts of only 0.1 percent FS under temperature stress. Thanks to these properties, the sensors may be used as excellent basic elements for constructing precise and stable transmitter systems.

Typical applications are systems requiring accurate pressure measurement in tight spaces and under harsh conditions.

These include:

Industrial applications:

- Hydraulic and pneumatic systems
- Measuring and control technology
- Measuring equipment for environmental and climate protection

Automotive electronics:

- Exhaust-gas recirculation systems and particulate filters
- Braking systems
- Air-conditioning systems
- Engine management

Medical technology:

- Respiration and anesthesia equipment
- Blood-pressure meters
- Sterilization equipment

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OVERVIEW OF KEY DATA

Conditions: T _a : 25 °C; V _{DD} : 5 V					
	Unit	Absolute pressure		Relative pressure	
Bridge resistance (min. / max.)	[kΩ]	2,4 / 4,0			
Offset voltage (min. / max.)	[mV]	-55 / +25	-30 / +25	-25 / +25	-25 / +25
Nonlinearity (typ.)	[% FS]	±0,3			
Rated pressure*	[bar]	1,6	10	1,6	10
Ordering code		B58600H8400A037	B58600H8400A038	B58601H8000A035	B58601H8000A036

* Further rated pressures upon request