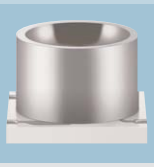
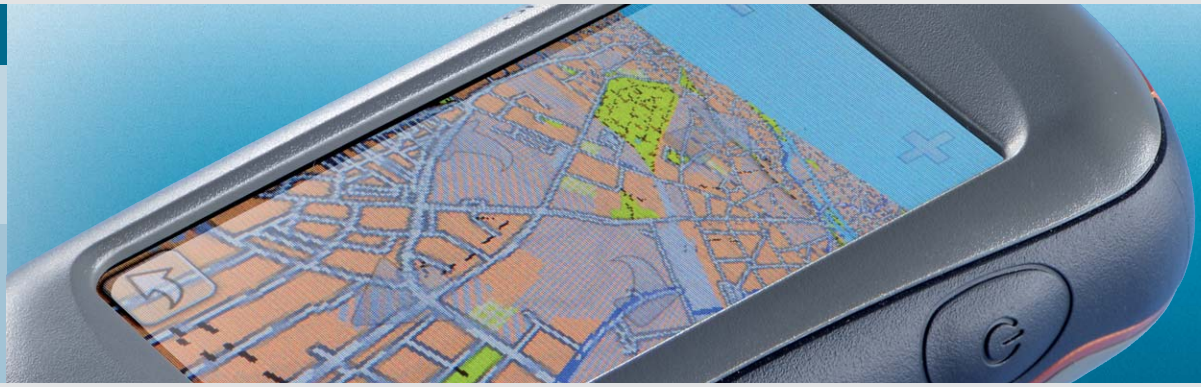
EPCOS

Product Brief 2009





Pressure Sensors

for Barometric Measurements in Consumer Applications

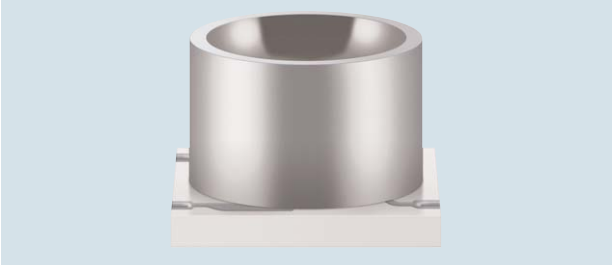
The ASB1200V and T5300 pressure sensors are the world's most compact, fully functional and packaged SMT barometric transmitters. They are optimized for absolute pressure measurements of 300 to 1200 mbar.

The **ASB1200V1** and **ASB1200VR** sensors are gel-protected barometric pressure transmitters with a calibrated interface. They are designed for low voltage applications. The heart of the new ASB1200V sensors is a piezoresistive sensor chip, which is mounted in hybrid technology together with the semiconductor ASIC. The ASB1200V1 provides an analog output voltage of 0 to 1 V, while the ASB1200VR delivers a ratiometric output voltage.

The ASB1200V sensor's package features a gel-protected stainless steel pressure port, which is suitable for the integration in IP64 applications. Potential applications for the pressure sensors include cameras with altimeter function, cycling computers, gas analyzers and meters, or HVAC systems in buildings. Digital interfaces with a resolution of 14 bits are in development.

The **T5300** digital pressure transmitter in CSMP® (chip-sized MEMS package) technology is the world's most compact packaged sensor of its kind. It provides a 14 bit resolution at the serial digital interface. Together with a GPS-determined location, the altitude measurement permits precise 3D positioning. Applications include navigation devices with 3D maps. Moreover, it also enables position information accurate to within a single story of a building for emergency calls from mobile phones.

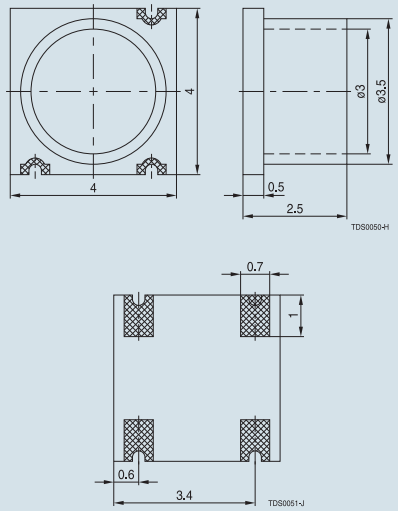
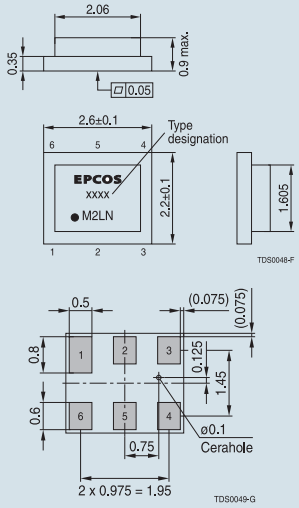
Technical Data



ASB1200V1/ASB1200VR in SMD package

T5300 in CSMP® technology

Characteristics

Pressure measurement	Absolute	Absolute	Absolute
Measurement media	Inert moist gases	Inert moist gases	Inert gases
Output signal	0 ... 1 V	Ratiometric	Serial bus
Pressure from	Front side	Front side	Back side
Construction / type	ASB1200V1	ASB1200VR	T5300
			

Dimensions				
Chip size / footprint	mm	4 x 4	4 x 4	2.2 x 2.6
Total height (max.)	mm	2.5	2.5	0.9
Flange diameter	mm	3.5	3.5	–
Maximum ratings				
Measuring range	mbar (hPa)	300 ... 1200	300 ... 1200	300 ... 1200
Storage temperature T_{st}	°C	-40 ... +125	-40 ... +125	-40 ... +125
Operating temperature T_a	°C	-40 ... +85	-40 ... +85	-40 ... +85
Supply voltage (max.) V_{DD}	V	2.7 ... 5.5	2.7 ... 5.5	2.7 ... 5.5
Output				
Pressure resolution		11 DAC	11 DAC	14 bit
Temperature resolution	bit	–	–	11
Interfaces		Analog 0 ... 1 V	10 ... 90% ratiometric	I²C, SPI
Soldering temperature	°C	260; 10 s	260; 10 s	260; 10 s
Ordering code		Upon request	Upon request	Upon request