

ESCP-BMS1

Board Mountable
MEMS Capacitive Pressure Sensors



ES Systems has developed a series of board mountable pressure sensors targeting a variety of markets requiring high resolution and accuracy for absolute, gauge or differential pressure measurements. The ESCP-BMS1 is a MEMS capacitive pressure sensor with state-of-the-art performance. The MEMS pressure sensor die is underpinned by ES Systems' innovative SOI-surface micromachining technology.

ESCP-BMS1 is an absolute, gauge or differential pressure sensor of ultra-high resolution with analog, SPI or I²C interface. The output is fully calibrated, and temperature compensated based on the internal temperature sensor and the factory calibration coefficients which are stored in the embedded memory. The sensor is ready to be installed directly to the end system without further processing. The total error including repeatability, hysteresis, non-linearity, thermal offset and calibration error between 0°C and 60°C is better than 0.25% FS.

Different power modes are available enabling low power operation. The sensor can be configured to provide both high accuracy 32-bit pressure and temperature outputs.

ESCP-BMS1 is a silicon capacitive pressure sensor with excellent long-term stability. The sensor is incorporated in a standard 8-pin DIP package with a single or two pneumatic ports. The top port is the high side and the bottom port is the low side.



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





Specifications

Pressure Type	Absolute, Gauge, Differential
Pressure Range, Absolute	200mbara... 10bara
Pressure Range, Gauge	0barg... 11barg
Pressure Range, Differential	±10mbar ... ±1bar
Power Supply	3,3V
Current Consumption, full operation	< 1 mA
Accuracy	±0.15% FSS
Total Error Band	±0.25% FSS
Operating Temperature	-20°C ... +85°C
Compensation Temperature	0°C ... +60°C, -20°C ... +85°C
Digital Output	Calibrated Pressure & Temperature
Analog Output	Calibrated Pressure
Overpressure Tolerance	Up to 100x
Media Compatibility	Gases

Ordering Information

ESCP-BMS1 - N - NNNNNNN - NN - NN - NN - N - N

Media									Temperature Sensor
G Dry glass only									Y Yes N No
Pressure Range									Pressure Response Time
Absolute	Gauge	Differential						1 15Hz 2 1kHz	
00500MA	00060MG	00010MD						Compensation Temperature	
01000MA	00100MG	00050MD						01 0°C to 60°C 02 -20°C to 85°C	
01250MA	00160MG	00100MD						Pressure Port	
02000MA	00250MG	00150MD						11  15 	
05000MA	00400MG	00200MD						02  08 	
10000MA	00600MG	00250MD						Output Type	
00050KA	01500MG	00500MD						01 SPI / I ² C (address 0x28) 05 Analog	
00100KA	05500MG	00750MD						02 SPI / I ² C (address 0x29)	
00125KA	07000MG	01000MD						03 SPI / I ² C (address 0x2A)	
00200KA	11000MG	00001KD						04 SPI / I ² C (address 0x2B)	
00500KA	00006KG	00005KD							
01000KA	00010KG	00010KD							
00010PA	00016KG	00015KD							
00015PA	00025KG	00020KD							
00020PA	00040KG	00025KD							
00030PA	00060KG	00050KD							
00075PA	000150KG	00075KD							
00145PA	00550KG	00100KD							
	00700KG	00001PD							
	01100KG	00002PD							
	00001PG	00003PD							
	00002PG	00004PD							
	00003PG	00005PD							
	00004PG	00006PD							
	00005PG	00007PD							
	00010PG	00010PD							
	00020PG	00015PD							
	00080PG								
	00100PG								
	00160PG								



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