

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															
G Dry glass only															
Pressure Range															
Absolute	Gauge	Differential													
00500MA	00060MG	00010MD													
01000MA	00100MG	00050MD													
01250MA	00160MG	00100MD													
02000MA	00250MG	00150MD													
05000MA	00400MG	00200MD													
10000MA	00600MG	00250MD													
00050KA	01500MG	00500MD													
00100KA	05500MG	00750MD													
00125KA	07000MG	01000MD													
00200KA	11000MG	00001KD													
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														

Temperature Sensor		
Y Yes		
N No		
Pressure Response Time		
1 15Hz		
2 1kHz		
Compensation Temperature		
01 0°C to 60°C		
02 -20°C to 85°C		
Pressure Port		
11 	15 	
02 	08 	
Output Type		
01 SPI / I ² C (address 0x28)	05 Analog	
02 SPI / I ² C (address 0x29)		
03 SPI / I ² C (address 0x2A)		
04 SPI / I ² C (address 0x2B)		



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