



SM7391-BBE-S-005-000

Differential, Dual Horizontal, 16-Bit I²C Pressure Sensor

The SM7391-BBE-S-005-000 is a 16-bit digital & analog, low pressure MEMS sensor offering state-of-the-art pressure transducer technology and CMOS mixed signal processing technology to produce a differential, fully conditioned, multi-order pressure and temperature compensated sensor in JEDEC standard SOIC-16 package with dual horizontal ports. The complete datasheet (40DS7860) and I2C Application Note (40AN7000) will be also available by contacting SMI Sales at (408) 577-0100 or sales@si-micro.com.

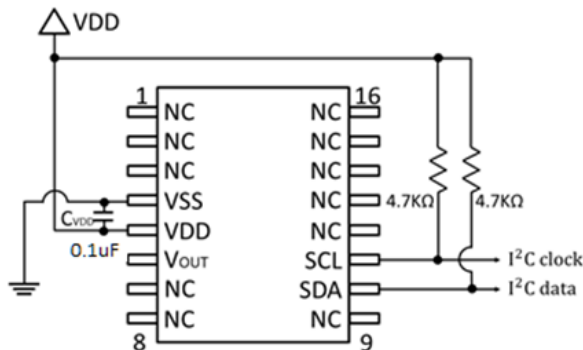
Part number SM7391-BBE-S-005-000 is shipped in sticks and part number SM7391-BBE-T-005-000 is shipped in Tape and Reel.

Sensor Specification

All parameters are specified at VDD = 3.3 V DC supply voltage at 25°C, unless otherwise noted.

| No. | Characteristic | Symbol | Minimum | Typical | Maximum | Units |
|-----|--|-------------------------------------|---------|---------|---------|--------|
| 1 | Supply Voltage | VDD | 3.0 | 3.3 | 3.6 | V |
| 2 | Supply Current | IDD | | 4.5 | | mA |
| 3 | Calibration Pressure | P _{MIN} / P _{MAX} | -5 | | 5 | mBar |
| 4 | Compensated Temperature | T _{COMP} | -20 | | 85 | °C |
| 5 | Digital Pressure Output @ P _{MIN} | DOUT _{MIN} | | -26214 | | Counts |
| 6 | Digital Pressure Output @ P _{MAX} | DOUT _{MAX} | | 26214 | | Counts |
| 7 | Digital Full Scale Span | DFS | | 52428 | | Counts |
| 8 | Resolution (Digital Output) | | | 16 | | Bits |
| 9 | Update Rate | | | 2000 | | S/sec |
| 10 | Bandwidth | BW | | 125 | | Hz |
| 11 | Digital Output Accuracy | DACC | -1 | | +1 | %FS |
| 12 | Analog Pressure Output @ P _{MIN} | AOUT _{MIN} | | 10 | | %VDD |
| 13 | Analog Pressure Output @ P _{MAX} | AOUT _{MAX} | | 90 | | %VDD |
| 14 | Analog Full Scale Span | AFS | | 80 | | %VDD |
| 15 | Analog Output Accuracy | AACC | -1.5 | | +1.5 | %FS |

Connection Circuit



Pinout table

| Pin No. | Pin function | Pin No. | Pin function |
|---------|-------------------------|---------|--------------|
| 1 | NC | 9 | NC |
| 2 | NC | 10 | SDA |
| 3 | NC | 11 | SCL |
| 4 | VSS | 12 | NC |
| 5 | VDD | 13 | NC |
| 6 | Vout (analog output) | 14 | NC |
| 7 | NC | 15 | NC |
| 8 | NC | 16 | NC |

*For package dimension information, please refer to the complete datasheet.