TK2700- 1700KPA digital pressure sensor

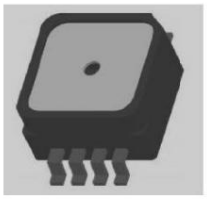
1. Product description:

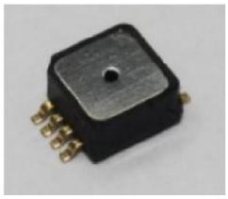
This product is a new high-speed, high-resolution digital output pressure measurement module; the

pressure measurement uses a diffused silicon pressure chip sensor, and a high-precision IC amplifies the signal, then compensates for it and then outputs it.

out.

Product pictures and specific dimensions





2. Application fields: Large

vehicle tire pressure, pressure vessels, etc., pressure measurement

3. The product is cost-effective:

a. High resolution, 24-bit ADC, b. Fast speed,

can collect data 100 times per second, c. Low power

consumption, automatically enters sleep when not communicating, collects 30 times per second, and the average current is less

than 300uA d. Wide voltage range of 2-5V

can be used. Customers can weld and

assemble easily. f. Good after-sales service, with full technical guidance and assistance.

4. Specifications:

Working voltage----------2V~5V Pressure range----------0~ 1700KPA Output range----------0~1700

Pressure measurement accuracy----------10KPA

Working environment temperature ---------- -40~125 degrees

Sensitivity---------- 1KPA

Maximum pressure----------2.5MPA Sleep current----------0.2uA Average current (30 per second times) < 300uA

PCB size: 8.69*5.897*1.2mm

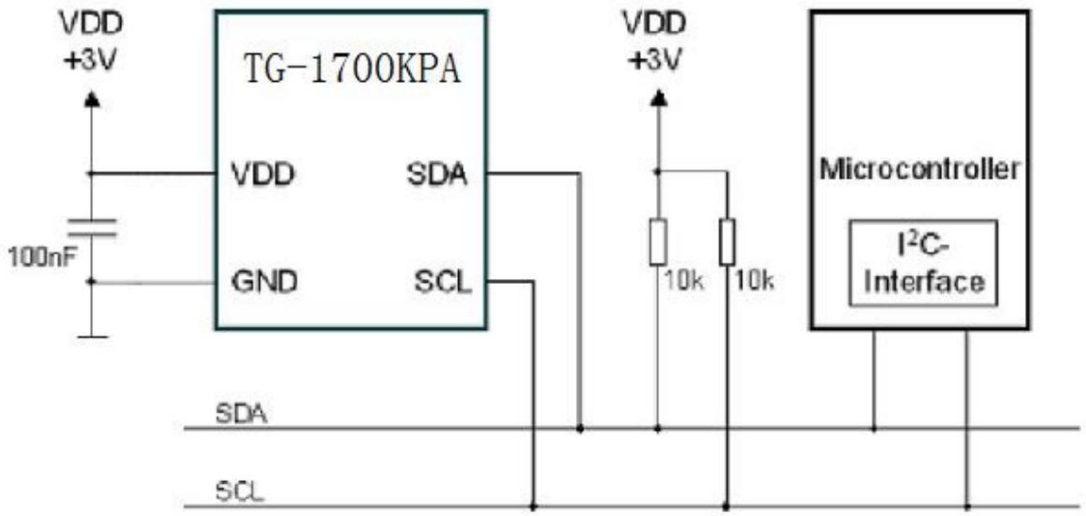
5. Pin function

Pin Pin Name I/O Description				DC characteristics	Remark
1	NC		empty legs		Empty pins, routing will not affect
2	GND	P land			
3	SCL	I/O IIC clock			Pull-up 10K resistor when used
4	SDA	I/O IIC number			Pull-up 10K resistor when used
5	TEST1	O test/standby			Leave empty when applied
6	VDD	P power port		2Vto5V	
7	TEST2	I test foot empty			Leave empty when applied
8	NC		foot		Empty pins, routing will not affect

6. Wiring method:

SDA SCL GND is connected to the negative power supply. VDD is connected to the positive power supply.

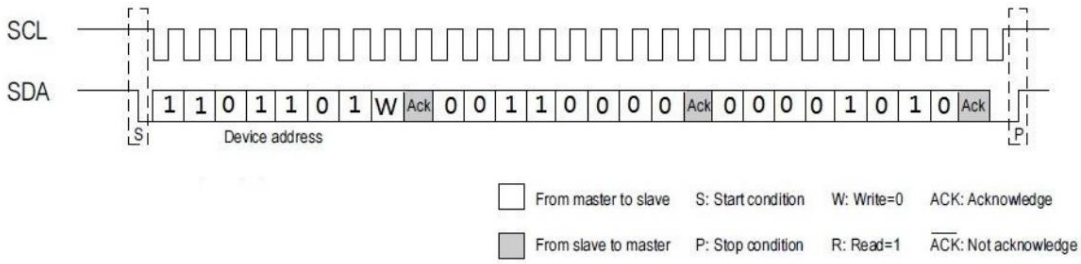
Refer to the figure below. Sensors SCL and SDA need external pull-up resistors.



7. Signal output: digital output (standard I2C protocol)

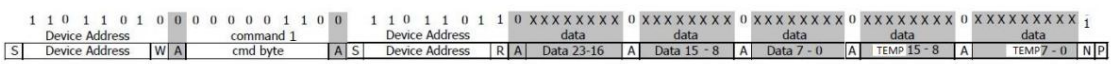
Based on the measurement speed requirements, for example, if the host requires 20 real-time data per second, it will send I2C communication every 50ms.

The timing is as follows: (SCL clock frequency can reach up to 400KHz, standard I2C format.)



The sensor is usually in low power consumption mode. It starts measuring after receiving the above signal. It takes about 3.8ms to complete a measurement. The host

You can wait 4.5mS before sending the read data. The timing is as follows:



D23-D0 is the calibrated (with temperature compensation) pressure data (hexadecimal number).

Convert D23-D8 into decimal to get the actual pressure. For example:

1013KPA. Sensor output: 03 F5; 04 1B corresponding pressure 1051KPA

If the value is greater than 32768, it is negative pressure (subtract this number from 65536 to get the actual negative pressure number).

T15-T0 is the calibrated temperature value,

T15-T8 are integers (if T15='1' means negative temperature, subtract 'T15-T8' from 100H), T7-T0 are decimals (resolution is 1/256 °C) Pressure output description:

Usually it is atmospheric pressure, and the digital output is about 0. If the atmospheric pressure changes, the output will change accordingly.

If the pressure is increased based on atmospheric pressure, add 100KPA, and the digital output part will increase by 100.

Temperature output description:

Example: 31.5°C sensor output 1F80

-5°C sensor output FB00

8. [Package size]