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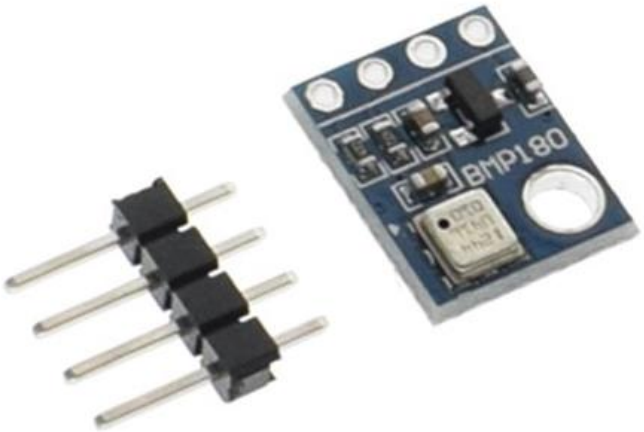
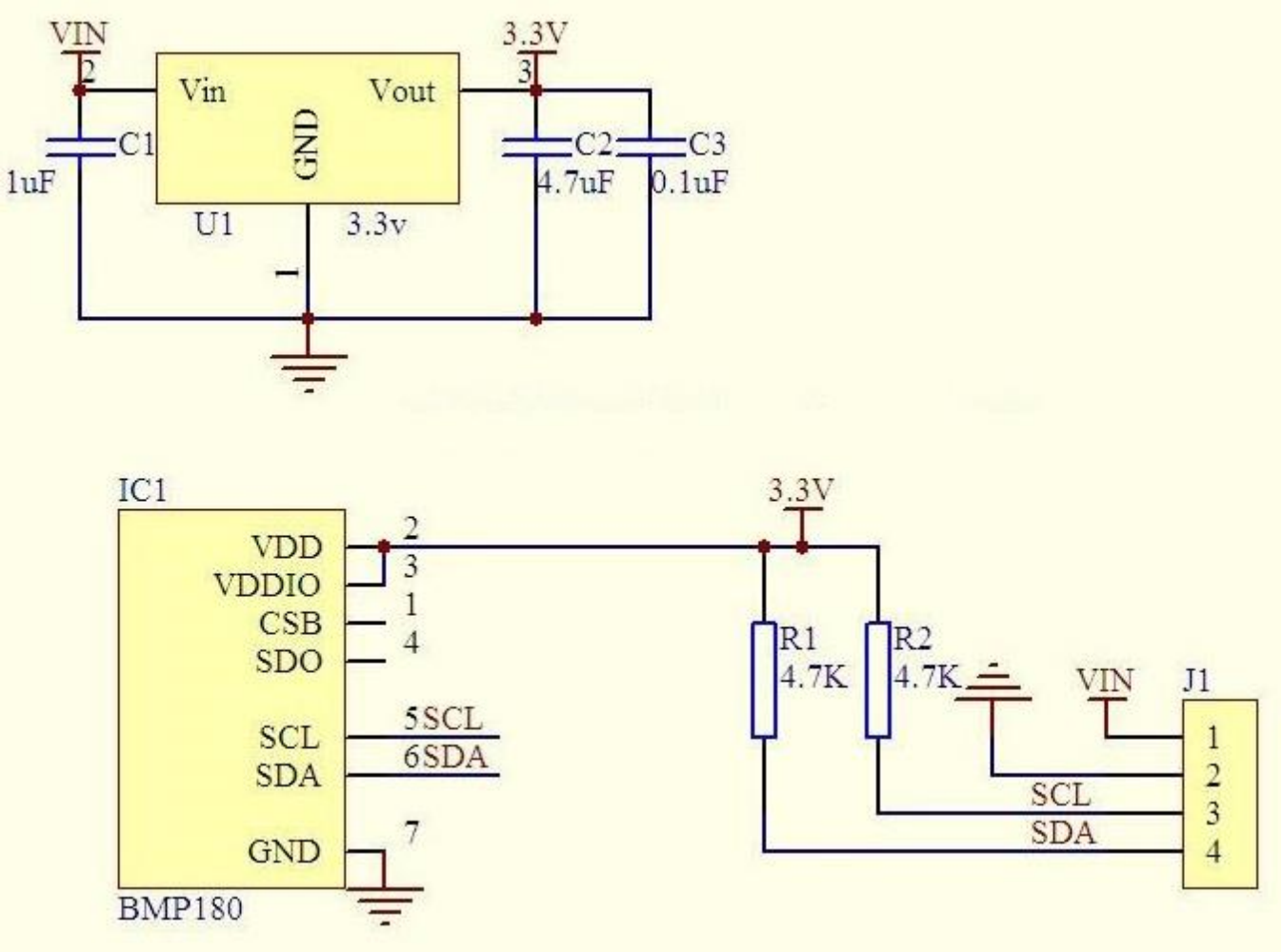
GY-68 BMP180 GY68 Replace BMP085 Digital Barometric Pressure Sensor Board Module For Arduino I2C Interface 1.8V 3.6V 3.5MHZ



Product Description:

BMP180
DIGITAL PRESSURE SENSOR
Key features
Pressure range: 300 ... 1100hPa (+9000m ... -500m relating to sea level)
Supply voltage: 1.8 ... 3.6V (VDD)
1.62V ... 3.6V (VDDIO)
Package: LGA package with metal lid
Small footprint: 3.6mm x 3.8mm
Super-flat: 0.93mm height
Low power: 5µA at 1 sample / sec. in standard mode
Low noise: 0.06hPa (0.5m) in ultra low power mode
0.02hPa (0.17m) ultra high resolution mode
- Temperature measurement included
- I2C interface
- Fully calibrated
- Pb-free, halogen-free and RoHS compliant,
- MSL 1
New features comparison
BMP180 BMP085
Smaller package height 0.93mm 1.2mm
Faster conversion time (standard mode each) 7.5ms (max.) 7.5ms (max)
Faster I2C data transfer max. 3.4MHz max. 3.4MHz
Extended min. supply voltage min. 1.8V min. 1.8V
Lower stand-by current (typ.) 0.1µA 0.1µA


BMP180
3mm
13mm
10mm


VIN
2
Vin
Vout
GND
C1
1uF
U1
3.3v
1
3.3V
3
C2
4.7uF
C3
0.1uF
IC1
VDD
VDDIO
CSB
SDO
SCL
SDA
GND
2
3
1
4
5SCL
6SDA
7
BMP180
3.3V
R1
4.7K
R2
4.7K
VIN
J1
SCL
SDA
1
2
3
4

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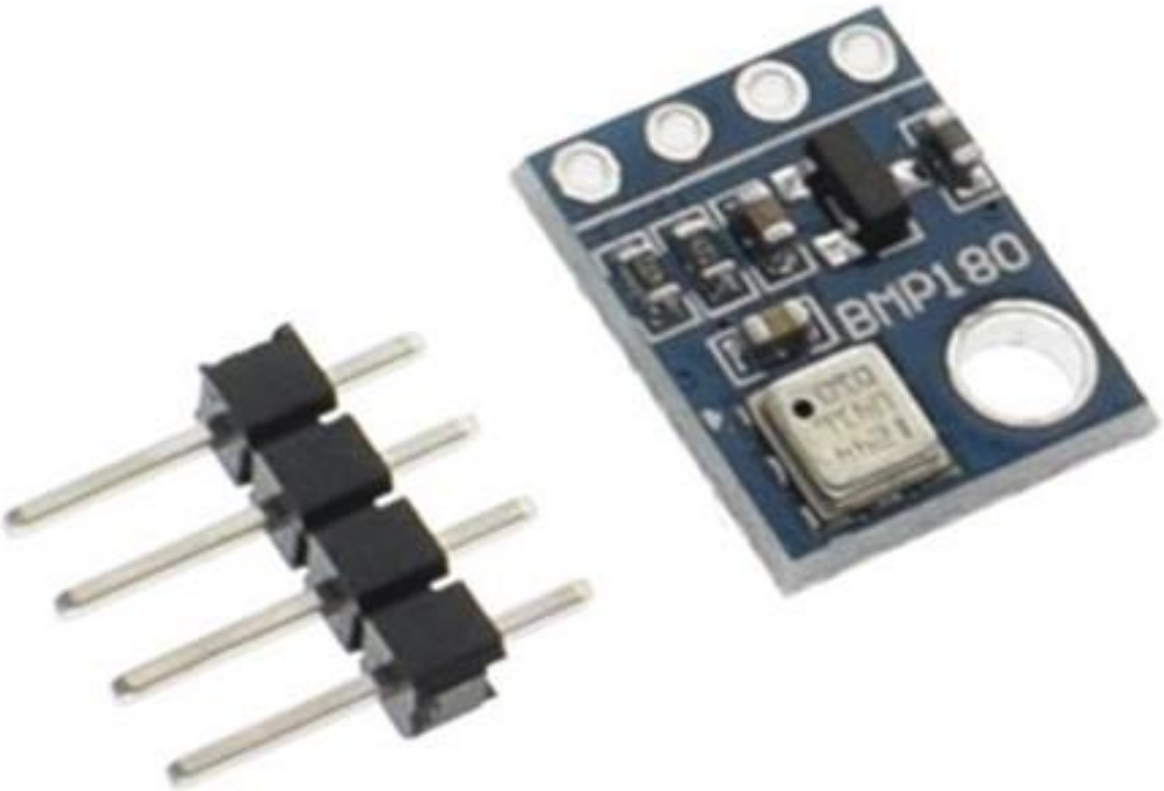
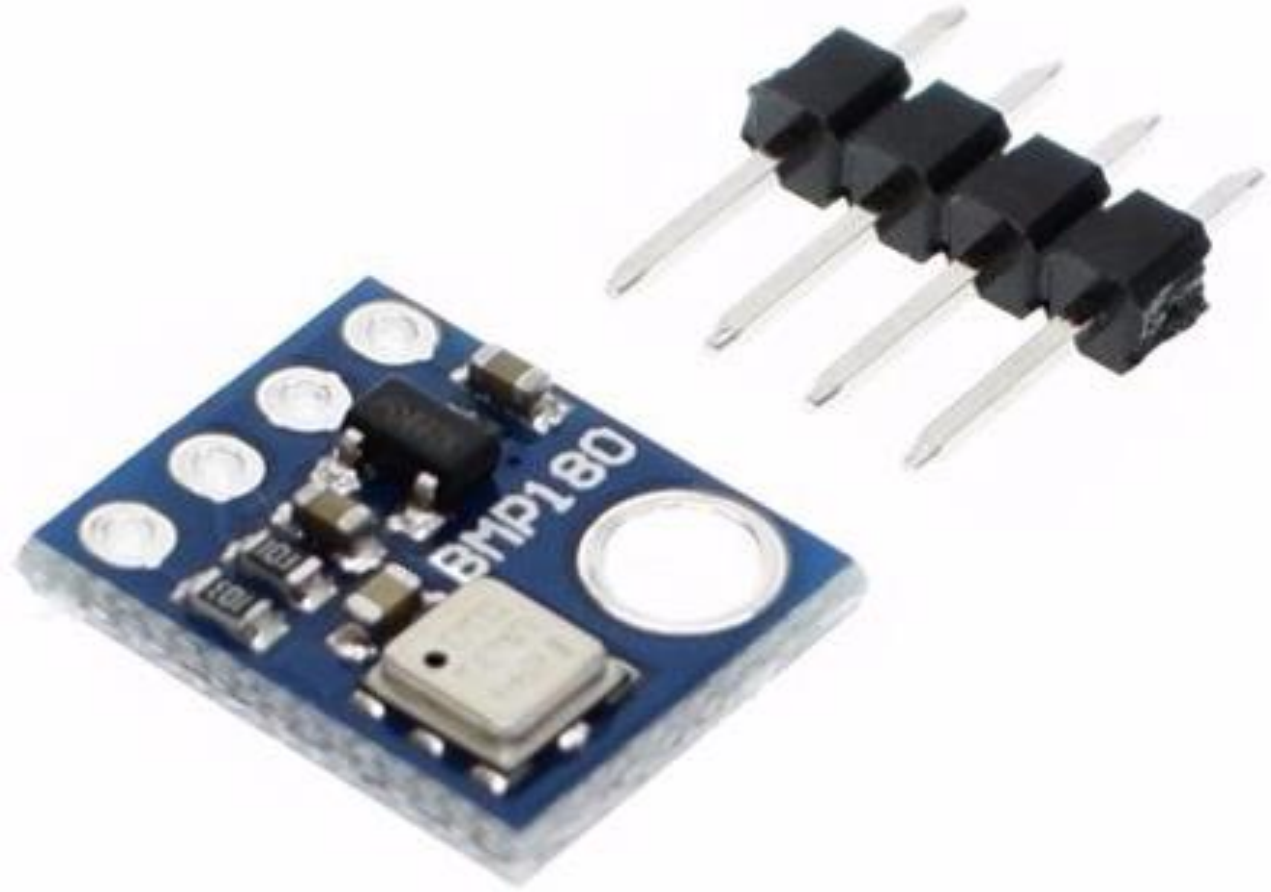
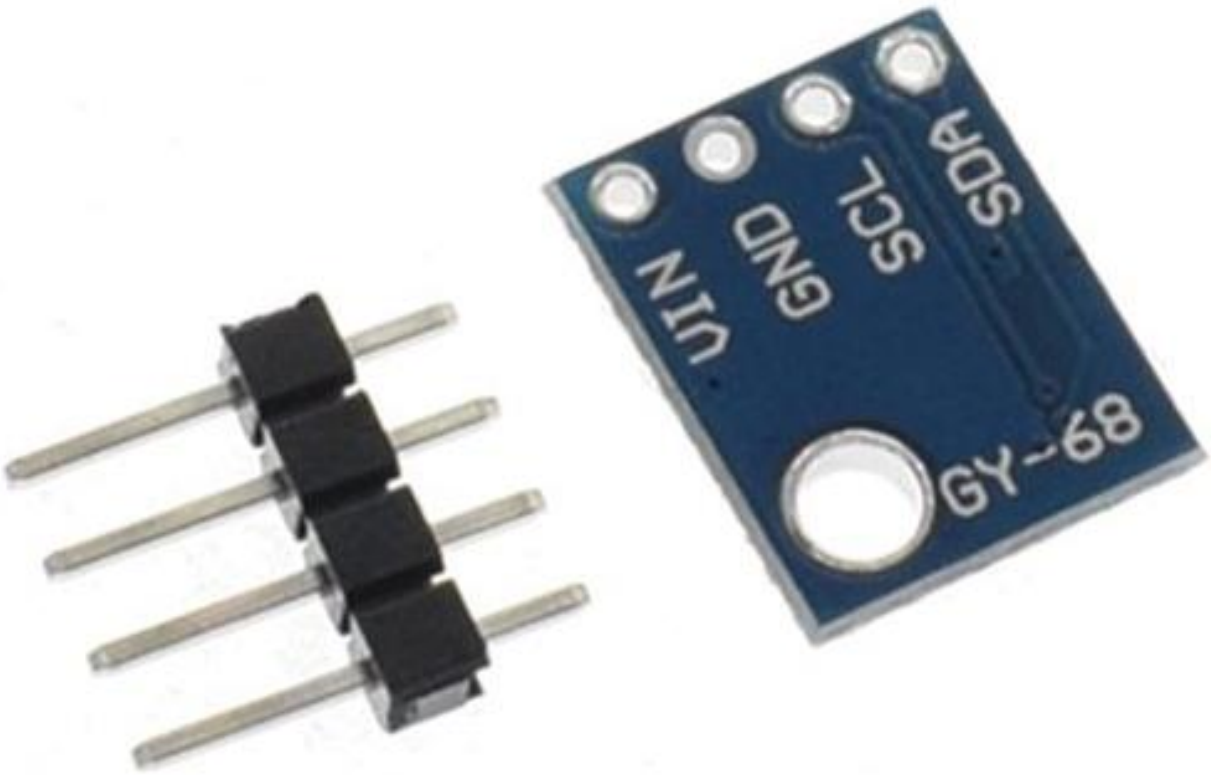
Parameter	Symbol	Condition	Min	Typ	Max	Units
Operating temperature	T_A	operational	-40		+85	°C
		full accuracy	0		+65	
Supply voltage	V_{DD}	ripple max. 50mVpp	1.8	2.5	3.6	V
	V_{DDIO}		1.62	2.5	3.6	V
Supply current @ 1 sample / sec. 25°C	I_{DDLOW}	ultra low power mode		3		µA
	I_{DDSTD}	standard mode		5		µA
	I_{DDHR}	high resolution mode		7		µA
	I_{DDUHR}	Ultra high res. mode		12		µA
	I_{DDAR}	Advanced res. mode		32		µA
Peak current	I_{peak}	during conversion		650	1000	µA
Standby current	I_{DDSBM}	@ 25°C		0.1		µA
Relative accuracy pressure V_{DD} = 3.3V		950 . . . 1050 hPa @ 25 °C		±0.12		hPa
				±1.0		m
		700 ... 900hPa 25 . . . 40 °C		±0.12		hPa
				±1.0		m
Absolute accuracy pressure V_{DD} = 3.3V		300 . . . 1100 hPa 0 . . . +65 °C	-4.0	-1.0*	+2.0	hPa
		300 . . . 1100 hPa -20 . . . 0 °C	-6.0	-1.0*	+4.5	hPa
Resolution of output data		pressure		0.01		hPa
		temperature		0.1		°C
Noise in pressure		see table on page 12-13				
Absolute accuracy temperature V_{DD} = 3.3V		@ 25 °C	-1.5	±0.5	+1.5	°C
		0 . . . +65 °C	-2.0	±1.0	+2.0	°C
Conversion time pressure	$t_{c\_p\_low}$	ultra low power mode		3	4.5	ms
	$t_{c\_p\_std}$	standard mode		5	7.5	ms
	$t_{c\_p\_hr}$	high resolution mode		9	13.5	ms
	$t_{c\_p\_luhr}$	ultra high res. mode		17	25.5	ms
	$t_{c\_p\_ar}$	Advanced res. mode		51	76.5	ms
Conversion time temperature	t_{C_temp}	standard mode		3	4.5	ms
Serial data clock	f_{SCL}				3.4	MHz
Solder drifts		Minimum solder height 50µm	-0.5		+2	hPa
Long term stability**		12 months		±1.0		hPa

Typical applications

- **Enhancement of GPS navigation (dead-reckoning, slope detection, etc.)**
- **In- and out-door navigation**
- **Leisure and sports**
- **Weather forecast**
- **Vertical velocity indication (rise/sink speed)**

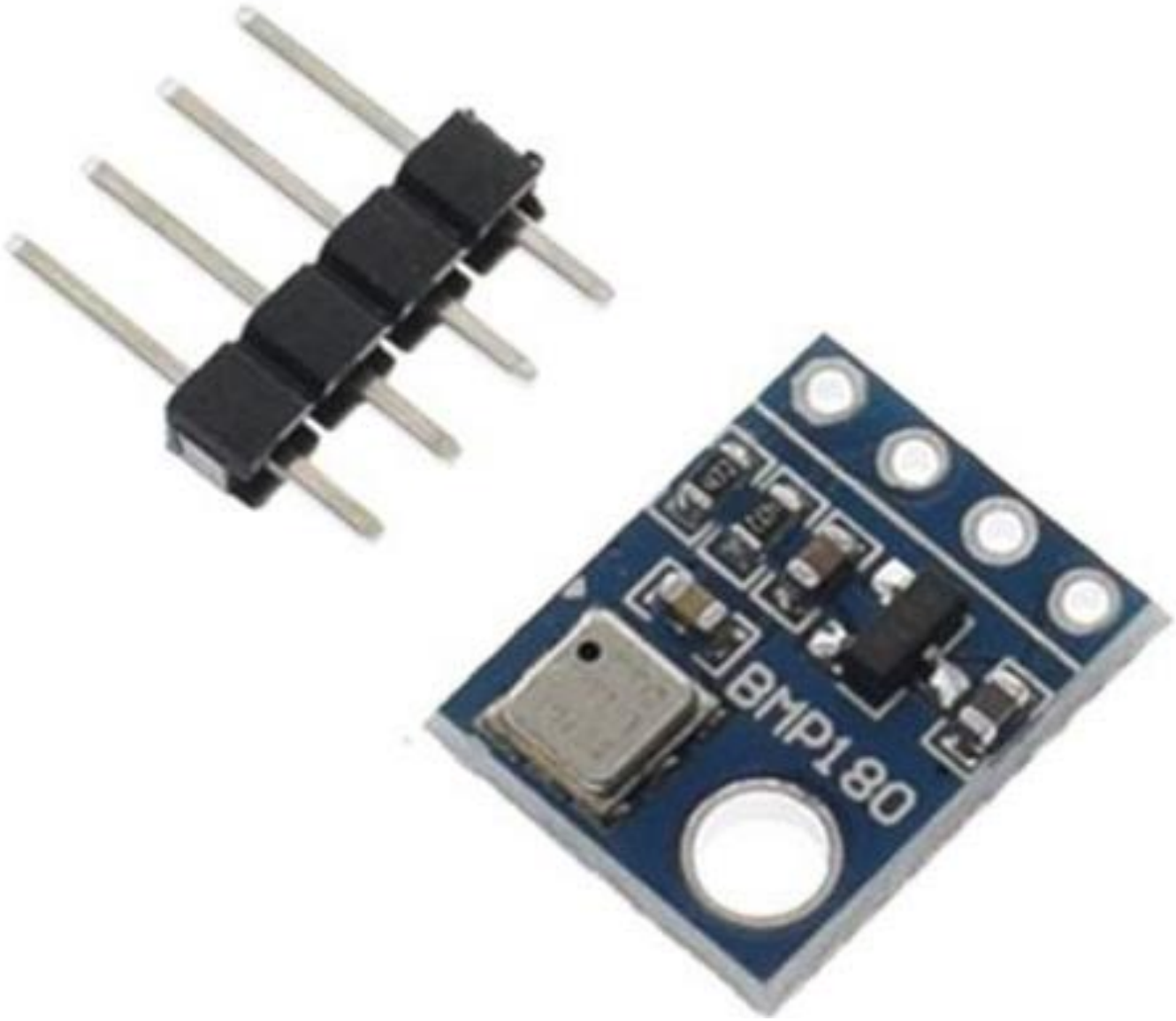



BMP180


VIN
GND
SCL
SDA
GY-68


BMP180


VIN
GND
SCL
SDA
GY-68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