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STORE

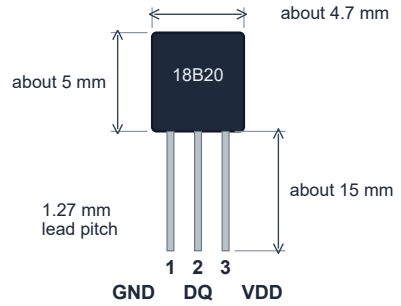
TECHNICAL DATASHEET
Click IT SKU CLICK-IT-343924
REV 1.0 | 2026-10-14

DS18B20-Compatible Digital Temperature Sensor, TO-92

Bare 3-lead 1-Wire temperature sensor for breadboards, PCBs and your own probes

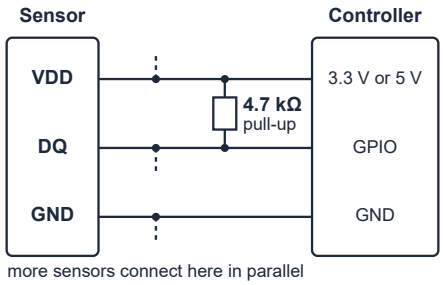
1-WIRE | 3.0 TO 5.5 V | 9 TO 12 BIT | 4.7 kΩ PULL-UP NEEDED | TO-92

PINOUT AND OUTLINE, FRONT VIEW



Flat face towards you, leads down. Simplified, not to scale; sizes are approximate.

RECOMMENDED CONNECTION, EXTERNAL POWER



One 4.7 kΩ resistor per data line, wired to the controller's own logic voltage.

IDENTIFICATION

ITEM	DETAIL
Device	**DS18B20-compatible digital temperature sensor, bare chip**
Package	**TO-92, 3 straight tinned leads, flat marked face and rounded back**
Package marking	**18B20 with lot code lines**
Pins and interface	**1 GND, 2 DQ (data), 3 VDD, flat face towards you and leads down. 1-Wire, unique 64-bit address**
Supplied as	**1 sensor. Pull-up resistor, wire and probe housing not included**

DS18B20 PROTOCOL-FAMILY REFERENCE

PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
Supply voltage, VDD	External power	**3.0**	**-**	**5.5**	**V**
Measuring range	Family specification	**-55**	**-**	**125**	**°C**
Resolution	Programmable, 9 / 10 / 11 / 12 bit	**0.0625**	**-**	**0.5**	**°C**
Conversion time	9 / 10 / 11 / 12 bit	**93.75 / 187.5 / 375 / 750 max**			**ms**
Data-line pull-up	To the logic supply	**-**	**4.7**	**-**	**kΩ**
Power-up register value	Before the first conversion	**-**	**85**	**-**	**°C**

These are DS18B20 protocol-family figures from the controller datasheet, for design reference. Compatible parts can differ in accuracy, conversion timing and parasite-power behaviour, so the family accuracy figure is not applied to this part. Check readings against a reference at the temperatures that matter.

WIRING

- **Arduino Uno or Nano:** VDD to 5V, GND to GND, DQ to D2, 4.7 kΩ from DQ to 5V.
- **ESP32 or Raspberry Pi:** VDD to 3.3V, GND to GND, DQ to GPIO4, 4.7 kΩ from DQ to 3.3V.
- **Several sensors:** wire them in parallel on the same three lines with one pull-up. Each answers to its own address.
- **Long cable runs:** use three-wire external power. A lower pull-up, such as 2.2 kΩ, can help on long or busy lines.

USE AND TROUBLESHOOTING

- **Parasite power:** not recommended with this part. Keep VDD connected to the supply rather than to GND.
- **Conversion wait:** wait the full time for the chosen resolution (94, 188, 375 or 750 ms) before reading. In the DallasTemperature library use **setCheckForConversion(false)**.
- **-127 °C:** no sensor found. Check the pull-up, the pin order and the pin number in the sketch.
- **85 °C:** the power-up value, read before a conversion finished.
- **Hot to the touch:** VDD and GND are swapped. Remove power at once.

Soldering and sealing: the leads sit at 1.27 mm; spread the outer two slightly for a 2.54 mm breadboard or footprint. Seal the sensor and joints for wet or outdoor use.

REVISION HISTORY

REV	DATE	CHANGE
1.0	2026-10-14	First release