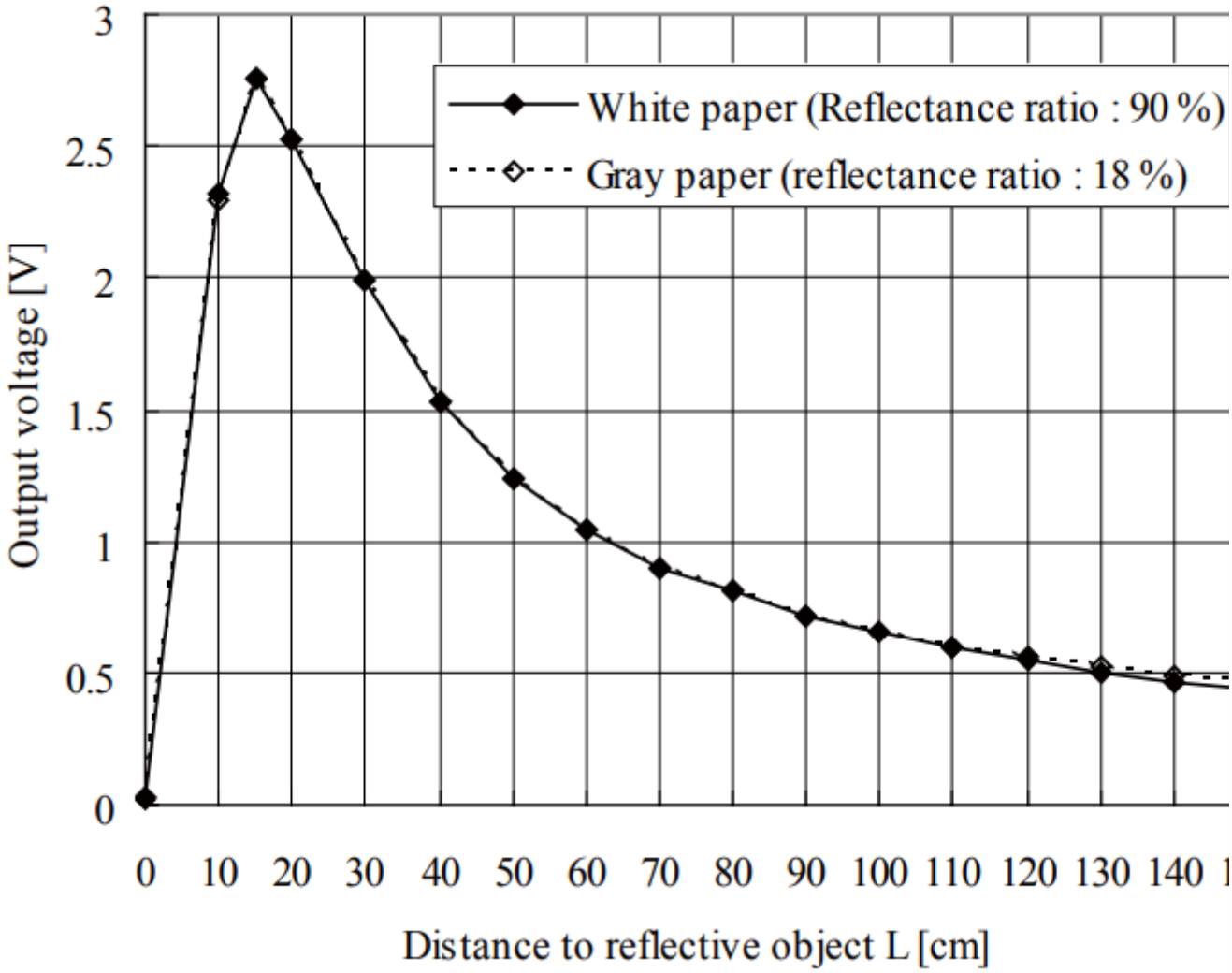
Measuring distance/proximity

If you need to quantify distance:

SHARP 2Y0A02, IR sensor (λ = 850 ± 70nm)

At-a-glance useful details:

- Sensing range: 20 - 150 cm
- Power requirements: 4.5 - 5.5 V (typ current consumption = 33mA)
- link to datasheet
- Output voltage ***is not linear with distance; see plot below (from datasheet, linked above)***



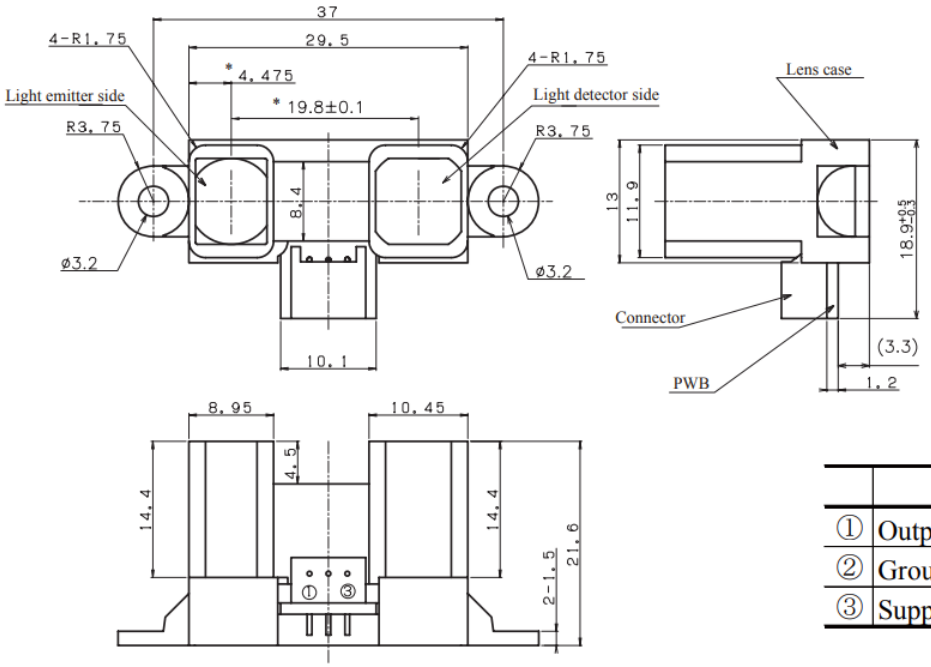
SHARP

2Y0A02 F 4 8

Model name

Production month : Jan. to Sep. ; 1 to 9
Oct. ; X, Nov. ; Y, Dec. ; Z

Production year : Last digit of prod. year



	Terminal	Symbol
①	Output terminal voltage	V_O
②	Ground	GND
③	Supply voltage	V_{CC}

Note 1. Unspecified tolerances shall be ± 0.3 mm.
Note 2. The connector is made by J.S.T.TRADING COMPANY,LTD. and its part number is S3B-PH.
Note 3. The dimensions in parenthesis are shown for reference.
Note 4. The dimension marked by "*" show a distance from/to the center of an internal optical slit.

Product mass : approx. 4.8g

Ultrasonic Sensor (HC-SR04)



These sensors can detect objects within a range of 2 cm - 4 m with a ranging accuracy of up to 3mm. One thing to note is that they have a measure angle of 15 degrees, so they do well at measuring objects directly in front of the sensor. For most applications, this is favorable.

Helpful resource from Sparkfun with example code, and wiring diagram:

https://www.sparkfun.com/ultrasonic-distance-sensor-hc-sr04.html

If you just need to know if an object is present or not:

(e.g., detecting fan speed, motion detector, etc.)

Hall Sensor (AH1815, from Treston)

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