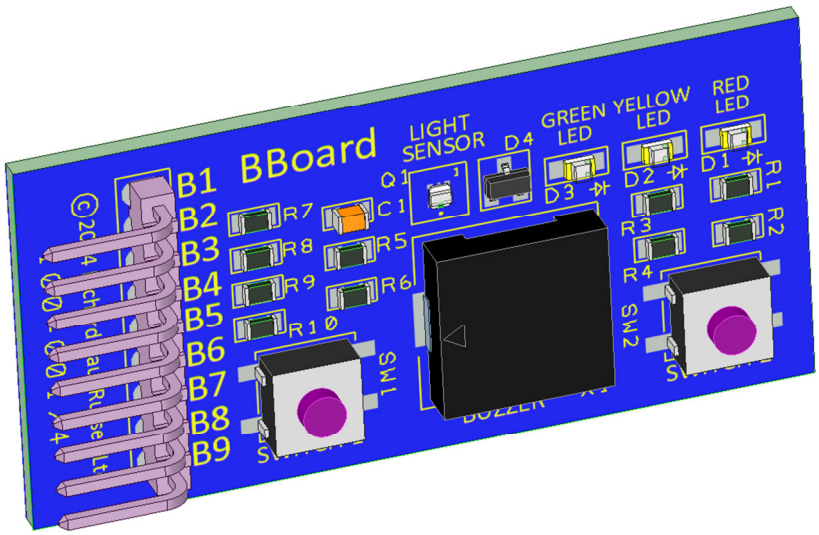


BBoard features

- Designed to support the UK Computing Stage 3 Program of Study and part of computing teaching at Key Stage 4 and 5.
- 3 LEDs, buzzer, 2 push button switches and a light sensor provide the ingredients for a very large number of lessons and projects.
- Uses current technology – surface mount components not obsolete though-hole components.
- High efficiency LEDs reducing load on processor port lines.
- Uses the APDS-9005 light sensor
- Protected against connection errors
- RoHS complaint (Lead-free)
- UK designed and manufactured.
- Can be used in conjunction with Arduino and Raspberry Pi.
- Supplied fully assembled.

Overview

The BBoard was developed in partnership with Al's Tech Garage to provide a cost effective, engaging hands on teaching aid to support the UK Computing Stage 3 Program of Study and part of computing teaching at Key Stage 4 and 5.

The board has 3 LEDs, buzzer, 2 push button switches and a light sensor which provide the ingredients for a very large number of interesting lessons and projects. It can be used in conjunction with Arduino and Raspberry Pi processors.

The BBoard can also be part of a wider curriculum due to the quality of the components. The light sensor has a spectral response close to that of human eye with an output that is linear across wide illumination range which enables it to be used in Science experiments. The twin input buttons enable the BBoard to be used as a game controller ideal for engaging more challenging students. The BBoard can be embedded into the Technology curriculum, in particular used to teach the electronics part of Product Design

Al's Tech Garage has many years of practical classroom teaching experience and provides a large number of resources for teachers including lessons and projects using the BBoard at www.AlsTechGarage.co.uk

Connections

Pin	Use
B1	Red LED
B2	Yellow LED
B3	Green LED
B4	Buzzer
B5	Switch 1
B6	Switch 2
B7	Light Sensor
B8	+V (5V max)
B9	0V

Specification

Size: 55mm x 27mm x 9mm

Weight: 7g

Technology: Surface mount components on FR4 1.6 mm thick PCB

LEDs: Red Peak Wavelength 550nm

Yellow Peak Wavelength 590nm

Green Peak Wavelength 574nm

Buzzer: Piezoelectric Sounder. Sound Pressure Level at 10 cm >75 dB when driven by 3Vp-p, 4kHz, square wave.

Switches: Surface mount push button switch SPST, N.O. Operating force: 2.25 ± 0.75 Newtons, Life 300,000 operations

Light sensor: Avago Technologies APDS-9005, analogue-output ambient light photo sensor with a spectral response close to that of human eye.

Connector: 9 way header 2.54mm pitch.

Lead-free: RoHS compliant

Absolute Maximum Ratings:

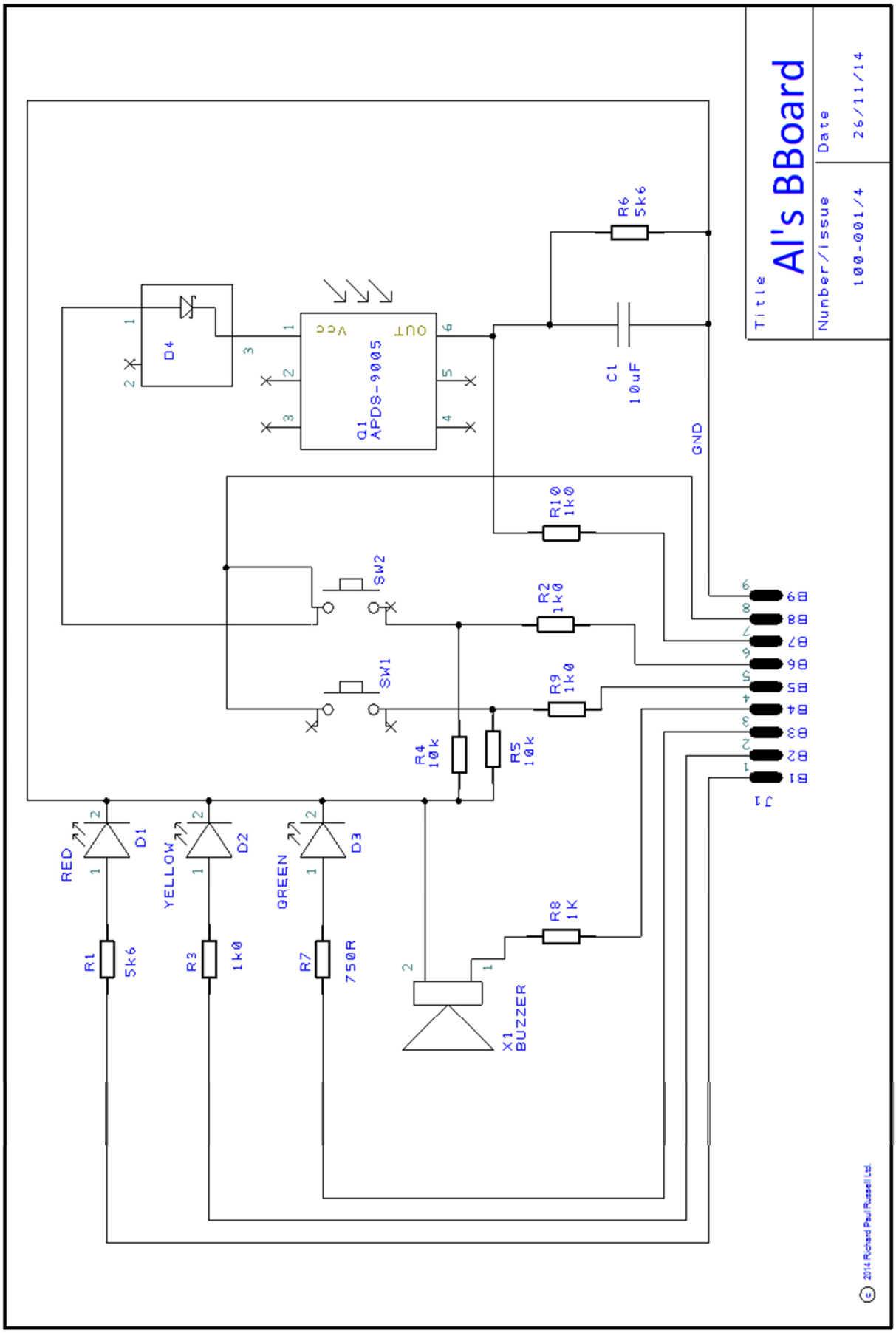
Operating Temperature -20°C to +70°C

Storage Temperature -30°C to +80°C

Voltage on any pin 0 to 5v

Compliance: CE marked - WEEE Directive 2012/19/EU, RoHS recast Directive 2011/65/EU

Waste electrical and electronic equipment or WEEE


Al's BBoard
Title
Number/issue
100-001/4
Date
26/11/14
R6 5k6
C1 10uF
GND
D4
Q1 APDS-9005
Vcc
OUT
R10 1k0
SW2
R2 1k0
SW1
R9 1k0
R4 10k
R5 10k
J1
RED
D1
YELLOW
D2
GREEN
D3
R1 5k6
R3 1k0
R7 750R
R8 1K
X1 BUZZER
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