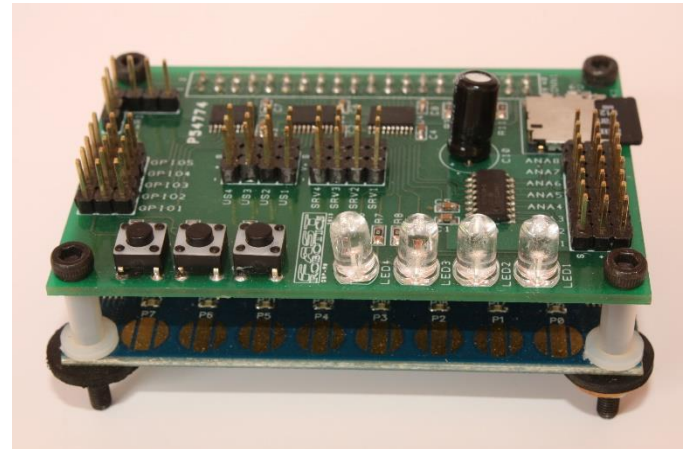


## Robot Shield (#810001)

### Key Features

- 8 Analog Inputs
- 9 GPIO
- 4 LED's
- MicroSD Card Slot
- 2 User Switches
- UART Interface (FTDI compatible)
- Reset Switch
- 5V Power Input
- Servo Power Input



### Specifications

- Dimensions: 2 in x 3 in (50.8 mm x 72.6 mm)
- GPIO Voltage (V<sub>in</sub>): 5V Max
- Servo Voltage (V<sub>Servo</sub>): 6V Max
- Current Sourcing/Sinking: 40 mA per I/O Pin
- Input Voltage (V<sub>in</sub>): 5V
- Max Total Current Draw (not including V<sub>Servo</sub> Pins): 100 mA
- Max data rate: 20 Mbps

### Pinout

#### Servo Port

<i>Pin:</i>	S	+	-
SRV1	PWM (P16)	VServo	GND
SRV2	PWM (P15)	VServo	GND
SRV3	PWM (P14)	VServo	GND
SRV4	PWM (P13)	VServo	GND

### LED's

<i>Pin:</i>	Propeller Pin
LED1	P20
LED2	P19
LED3	P18
LED4	P17

### GPIO Port

	<i>Pin:</i>	S	+	-
GPIO1		P6	Vin	GND
GPIO2		P5	Vin	GND
GPIO3		P4	Vin	GND
GPIO4		P3	Vin	GND
GPIO5		P2	Vin	GND
GPIO6		P12	Vin	GND
GPIO7		P11	Vin	GND
GPIO8		P10	Vin	GND
GPIO9		P9	Vin	GND

### Analog In Port

<i>Pin:</i>	S	+	-
ANA1	Analog In 0 (U1 Pin 1)	Vin	GND
ANA2	Analog In 1 (U1 Pin 2)	Vin	GND
ANA3	Analog In 2 (U1 Pin 3)	Vin	GND
ANA4	Analog In 3 (U1 Pin 4)	Vin	GND
ANA5	Analog In 4 (U1 Pin 5)	Vin	GND
ANA6	Analog In 5 (U1 Pin 6)	Vin	GND
ANA7	Analog In 6 (U1 Pin 7)	Vin	GND
ANA8	Analog In 7 (U1 Pin 8)	Vin	GND

### ADC Digital Interface

MCP3208 (U1) Pin	Propeller Pin
CLK (Pin 13)	P22
Data In/Out (Pin 11, Pin 12)	P21
Chip Select (Pin 10)	P23

### Switches

Switch	Propeller Pin
SW1	P0
SW2	P1
SW5	RESn

### UART/Power Header (UART1)

Pin	Function (Propeller Pin)
1	TX (P8)
2	RX (P7)
3	+5V
4	GND

### Servo Power Header (EPWR1)

Pin	Function
1	Servo Vin
2	GND

### MicroSD Digital Interface (SOK1)

SD Pin	Propeller Pin
DAT0	P24
CLK	P25
CMD	P26
CD/DAT3	P27

### Other Notes

- Micro SD Card should be formatted as FAT16, up to 512 MB has been verified.

### Drawings, Sample Code, etc:

Main Repository: [https://github.com/fastrobotics/810001\\_robot-shield](https://github.com/fastrobotics/810001_robot-shield)

### Bill Of Materials

Quantity	Description	Vendor PN	Vendor
1	Robot Shield Bare PCB		Oshpark
1	Shield Hardware Kit	810501	FAST Robotics
3	Voltage Level Translator	296-21527-1-ND	Digikey
1	ADC 12Bit 2.7V 8CH SPI 16SOIC	MCP3208-CI/SL-ND	Digikey
1	HEADER Right Angle 21x3 .1in	TSW-107-08-G-T-RA-ND	Digikey
1	PLUG .1in 40POS DOUBLE ROW STRAIGHT	OR1081-ND	Digikey
1	Micro SD Card Socket SMT	HR1941CT-ND	Digikey
4	LED-Blue Thru-Hole	C503B-BAN-CY0C0461-ND	Digikey
1.725	CONN HEADER .1in SINGLE STR 40POS	S1012EC-40-ND	Digikey
3	Tactile Switch Thru-Hole	450-1650-ND	Digikey
1.5	HEADER Right Angle 4x1 .1in	952-1965-ND	Digikey
11	RES 10kOhm .125W SMD0805	P10KACT-ND	Digikey
9	Cap .1uF 25V	445-1316-1-ND	Digikey

### Ordering Information

## **ROBOTSHIELD-ABC**

A: Assembled

0: No Assembly

1: Fully Assembled

B: Header Type

0: Straight

1: Right-Angle

C: Standoff Kit

0: Not Included

1: Included