

Group Mouser Order – June 2016

I have made an order for some useful parts from <http://mouser.com>, my favorite electronic parts supplier. By studying the schematic of the Gertboard, I found that an ATmega328P, two values of capacitors, a 10 kOhm resistor, and a diode allowed programming an ATmega328P without using a Gertboard. The list below includes those items and some other extra useful parts to gain quantity discounts for 10 groups of parts.

Mouser Part #	Manufacturer Part #	Description	Pricing	Total
810-FG16X7R1E106KRT6	FG16X7R1E106KRT06	Multilayer Ceramic Capacitors MLCC - Leaded10uF 25volts X7R 10% Radial	10 \$0.487	\$4.87
512-1N4148	1N4148	Diodes - General Purpose, Power, Switching100V Io/200mA	100 \$0.019	\$1.90
594-K104K15X7RF53L2	K104K15X7RF53L2	Multilayer Ceramic Capacitors MLCC - Leaded0.1uF 50volts 10% X7R 2.5mm LS	50 \$0.054	\$2.70
556-ATMEGA328P-PU	ATMEGA328P-PU	8-bit Microcontrollers - MCU32KB In-system Flash 20MHz 1.8V-5.5V	10 \$3.30	\$33.00
603-CFR-25JR-52220R	CFR-25JR-52-220R	Carbon Film Resistors - Through Hole 220ohm ¼ W 5%	100 \$0.013	\$1.30
291-1.8K-RC	291-1.8K-RC	Carbon Film Resistors - Through Hole 1.8Kohms ¼ W 5%	200 \$0.019	\$3.80
603-CFR-25JB-1K0	CFR-25JB-1K0	Carbon Film Resistors - Through Hole 1.0Kohms ¼ W 5%	100 \$0.016	\$1.60
603-CFR-25JR-5210K	CFR-25JR-52-10K	Carbon Film Resistors - Through Hole 10K ohm ¼ W 5%	100 \$0.013	\$1.30
595-SN74HC244N	SN74HC244N	Buffers & Line DriversTri-State Octal	10 \$0.419	\$4.19
859-LTL-307G	LTL-307G	Standard LEDs - Through Hole Green Diffused	100 \$0.055	\$5.50
859-LTL-307E	LTL-307E	Standard LEDs - Through Hole Red Diffused	100 \$0.055	\$5.50
859-LTL-307Y	LTL-307Y	Standard LEDs - Through Hole Yellow Diffused	100 \$0.055	\$5.50
			Workshop Total	\$71.16

I needed the following fuses for myself:

504-GDB-2A	BK/GDB-2A	Cartridge Fuses250V 2A Fast Acting	10 \$0.356	\$3.56
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The parts for the workshop totaled to \$71.16, 3-day shipping was \$13.99 and sales tax was \$5.98. So the cost of a Baggie with 1/10 the workshop parts turns out to be \$9.11. Since some of the shipping and tax cost was for my fuses, each pack should be about \$9.

Data sheets for the LEDs are at http://www.mouser.com/ds/2/239/S_110_LTL-307Y-365154.pdf ,
http://www.mouser.com/ds/2/239/S_110_307E-596621.pdf ,
 and http://www.mouser.com/ds/2/239/S_110_LTL-307G-365659.pdf .
 The data sheet for the buffer is at <http://www.mouser.com/ds/2/405/sn74hc244-405041.pdf> .

The Cana Kit now comes with a sufficiently large board for our needs, but if you wish to order more boards, here is a link that may be helpful:

http://www.amazon.com/Solderless-Plug--BreadBoard-tie-points-200PTS/dp/B005GYATUG/ref=sr_1_2?s=electronics&ie=UTF8&qid=1434483652&sr=1-2&keywords=Breadboard+in+electronics

Solderless Plug-in BreadBoard, 830 tie-points, 2 Power lanes, 200PTS, 16.5 x 5.4 x 0.85 cm

Also, the CanaKit comes with some jumpers, but if you wish for more, Here is a link to more:

http://www.amazon.com/Kalevel%C2%AE-120pcs-Multicolored-Female-Breadboard/dp/B00M5WLZDW/ref=pd_sbs_328_39?ie=UTF8&refRID=0YJHV1TNPVGYBK22FMN9

Kalevel® 120pcs Multicolored 40pin Male to Female, 40pin Male to Male, 40pin Female to Female Breadboard Jumper Wires Ribbon Cables Kit

The data sheet for the 1N4148 diode is at <http://www.mouser.com/ds/2/149/1N4148-188179.pdf>

The data sheets for the capacitors and resistors are not so interesting.

There are links to those at mouser.com, but the link there to the ATmega328P data sheet is only to a 40-page summary version. Our setup instructions should have placed the full datasheet in directory

/home/pi/Programming/Assembly/ATmega328P_Documentation/

with the name

Atmel-8271-8-bit-AVR-Microcontroller-ATmega48A-48PA-88A-88PA-168A-168PA-328-328P_datasheet.pdf