

myParts Kit from Texas Instruments: Companion Parts Kit for NI myDAQ

SKU: 6002-240-001



Product Description

Get your students quickly involved in building essential electronic circuits using myParts Kit supported by the Texas Instruments[®] University Program.

The set of key components in the myParts Kit encourages hands-on experimentation with breadboards of basic circuitry, helping to make learning productive and enjoyable for beginners and more advanced students alike. Hobbyists and independent developers will also find the kit useful for investigating their design concepts.

The kit comes with a collection of parts that are the building blocks of all electronics, including op-amps, an instrumentation amplifier, a comparator, voltage regulators, switching regulators, digital logic gates, timers, temperature sensors, data converters, transistors, resistors, capacitors, LEDs, switches, a wiring kit and more. myParts Kit enables your students to run experiments that help them understand real-life applications in areas such as power management, audio amplification, spinning motors, light detection, signal conditioning, data acquisition, and telecommunications to name a few. Projects that can be built with the kit include:

- Inverting and non-inverting amplifiers
- Filters
- Voltage followers

Regulators
Signal conditioning
Pulse-width modulated (PWM) signal generators
Integrators
Differentiators
Light detectors
Data converters

...and many others.

Note:

Fits well with other tools:

The kit is a great complement to the NI myDAQ and ELVIS tools, as well as the Digilent Electronics Explorer Board, for hands-on learning both inside and outside of the lab. Students can use the simulation software that is already available in school to simulate results before building their circuits. In addition, if your school uses NI Multisim, you have the capability of pulling many of these TI devices into a design.

myParts Kit can help get your students ready to launch specialized advanced projects in renewable energy, bio-medical and robotics and automation, to name only a few applications. For these systems, students can turn to the wide portfolio of semiconductor products that TI offers, including microcontrollers, processors, wireless connectivity solutions, power management, data conversion, amplifiers, and logic. Many of the analog devices are supported by educational kits available through TI's University Program, such as the Analog System Lab Kit PRO, which helps you learn the essential analog building blocks of an electronics system.

Features:

Op-amps:

Op-amp: TL072CP
Op-amp: TL074CN
Op-amp: LF356
Op-amp: LM741C
Instrumentation Amp: INA217
Comparator: LM311P

Regulators:

1.5A boost/buck/inverting switching regulator: MC34063AP
Voltage regulator: LM317 (TO-220)

Logic ICs:

NAND: triple 3 input (SN74LS10N)

NAND: quad 2 input (SN74LS00N)
OR: quad 2 input (SN74LS32N)
XOR: quad 2 input (SN74LS86N)
NOR: quad 2 input (SN74LS02N)
AND: quad 2 input (SN74LS08N)
Inverter buffer/driver: SN74LS04N Hex
Counter, 4-bit: SN74LS163N
Dual JK flip-flop: SN74LS107AN
D type dual flip-flop: SN74LS74N
Decoder/encoder/mux: CD4511BE
3 to 8 decoder/demux: SN74LS138N
8 to 3 encoder: SN74LS148
Dual complementary pair/inverter: CD4007UB
Timer: TLC555CP

Converters:

Freq to V converter: LM2917N/NOPB
A/D converter, 12-bit: ADS7816P
A/D converter: ADS7822P
D/A converter, 12-bit: TLV5616CP

Diodes:

Zener diode: 1N4735
Small signal diode: 1N3064
Fast switching diode: 1N914B
1A Schottky diode: 1N5819
1A rectifier diode: 1N4001
Infrared receiver diode
Infrared emitter diode

Resistors:

$\frac{1}{4}$ W, 1.1 Ω , $\pm 5\%$
 $\frac{1}{4}$ W, 2.2 Ω , $\pm 5\%$
 $\frac{1}{4}$ W, 10 Ω , $\pm 5\%$
 $\frac{1}{4}$ W, 47 Ω , $\pm 5\%$
 $\frac{1}{4}$ W, 68 Ω , $\pm 5\%$
 $\frac{1}{4}$ W, 100 Ω , $\pm 5\%$
 $\frac{1}{4}$ W, 150 Ω , $\pm 5\%$
 $\frac{1}{4}$ W, 200 Ω , $\pm 5\%$
 $\frac{1}{4}$ W, 220 Ω , $\pm 5\%$
 $\frac{1}{4}$ W, 330 Ω , $\pm 5\%$
 $\frac{1}{4}$ W, 470 Ω , $\pm 5\%$
 $\frac{1}{4}$ W, 680 Ω , $\pm 5\%$
 $\frac{1}{4}$ W, 1 k Ω , $\pm 5\%$

¼ W, 1.5 kΩ, ±5%
¼ W, 2.2 kΩ, ±5%
¼ W, 3.3 kΩ, ±5%
¼ W, 4.7 kΩ, ±5%
¼ W, 5.6 kΩ, ±5%
¼ W, 10 kΩ, ±5%
¼ W, 15 kΩ, ±5%
¼ W, 20 kΩ, ±5%
¼ W, 22 kΩ, ±5%
¼ W, 33 kΩ, ±5%
¼ W, 47 kΩ, ±5%
¼ W, 68 kΩ, ±5%
¼ W, 100 kΩ, ±5%
¼ W, 200 kΩ, ±5%
¼ W, 470 kΩ, ±5%
¼ W, 1 MΩ, ±5%
¼ W, 10 MΩ, ±5%

Power Resistors:

10W, 6.8 Ω, ±5%

Potentiometers:

¾ W, 1 kΩ, ±10%: 3006P-102
¾ W, 10 kΩ, ±10%: 3006P-103
¾ W, 100 kΩ, ±10%: 3006P-104

Ceramic Capacitors:

39 pF (x2)
100 pF (x2)
1 nF (x2)
2.2 nF (x2)
4.7 nF (x2)
10 nF (x4)
47 nF (x2)
100 nF (x2)

Electrolytic Capacitors:

1 uF, 50V (x2)
4.7uF, 50V (x2)
10 uF, 50V (x2)
22 uF, 25V (x2)
47 uF, 25V (x2)
220 uF, 25V, ±20% (x1)

470 uF, 25V, $\pm 20\%$ (x2)

Transistors:

P-channel MOSFET (x4): ZVP2110A

NPN transistor (x3): 2N3904L

PNP transistor (x3): 2N3906L

NPN bipolar power transistor: TIP31C

PNP bipolar power transistor: TIP32C

N-channel power MOSFET: IRF510

Compl. transistor pair: STD815CP40 or STD830CP40

Dual NPN high voltage transistors: STD845DN40 or STD840DN40

LEDs:

Red (x2)

Yellow (x2)

Green (x2)

Misc:

Audio transformer

Photocell buzzer

Light sensor

Wiring kit

<https://store.digilentinc.com/myparts-kit-from-texas-instruments-companion-parts-kit-for-ni...> 7/1/2016