**Electronic Component Cheat Sheet**

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| **Name** | **Symbol符号** | **Drawing绘图** | **Description描述** |
| LED (Light Emitting Diode) | (US and International) |  | A LED (or Light Emitting Diode) is an electronic component which outputs a light source when electricity runs through it. It has two legs; the longer leg is known as the anode (+) and the shorter leg is the cathode (-). Most LEDs have a flat side which also can be used to work out which side is the cathode. |
| Resistor  电阻 | 95FUL{B}@DN[P9}8)4GI38U | W27{(~ZIJY49YJ6KWSS$XDD | Current limiting  To prevent excessive current from burning out the components connected in series and to ensure the normal operation of the appliance, a variable resistor can usually be connected in series with the circuit.Shunt Resistors are connected in parallel to the component or circuit to be shunted, with no change in voltage.Voltage division  Conversion of electrical energy into internal energy (heat generation)  When an electric current passes through a resistor, it converts all the electrical energy into internal energy, which acts as a heat generator. |
| Potentiometer  电位器 | NG4A2MF5H[$Y7{`UQ1NLFRR | OK7D%FBIN%W9SHYA7`20B`F | First role: current control  Some of those capable of current control are precision potentiometers.  2, the second role: the distribution of voltage  The use of resistance and voltage nearly linear relationship, adjust the resistance of the resistor can adjust the voltage distribution relationship, to achieve stepless adjustment of the output voltage.  3, the third role: change the resistance  Potentiometers can be used when the circuit requires an input parameter of resistive resistance. |
| Voltage Regulator  稳压器 | Y}_A6X}E%B]1VKC57[4L`XG | TXZVC]YS8BEHZE36O${~1@I | The role of the voltage regulator is: will fluctuate and not meet the requirements of electrical equipment to stabilise the supply voltage in its set value range, so that a variety of circuits or electrical equipment can work normally at the rated working voltage. |
| MOSFET  Mos管 | I6@1{)U11UVIOJOP6M~240A | GN_1E%PF[7TRU}ES8(7E%7R | It is a field-effect transistor that can often be used in analogue and digital circuits. MOS tubes have high input impedance, low noise, good thermal stability; simple manufacturing process and strong radiation, thus they are usually used in amplification circuits or switching circuits. |
| DC Motor  直流电动机 | 2EUGPSN2%D2WVS`8(AEO)U0 | 86}2@_8@1]RB6%E}H)[]R74 | DC motors are motors that use a DC power source (e.g. dry cell, battery, etc.) and are generally used in circuits with low voltage requirements |
| Diode二极管 | CLB`]4`9E8PXVP3`8C72V5B | `I@F87K`V5{V$0_$}4{499R | Diodes are used in rectifier circuits, detector circuits, voltage regulator circuits and various modulation circuits.  The diode is one of the most commonly used electronic components. Its greatest characteristic is that it conducts in one direction, meaning that current can only flow in one direction from the diode. |
| Switch / Push Button开关 按钮 | 10L]SMW2W)TB[QT`KJC@Z@T | 97R}17]U4L~4SB2C8EFWINQ | Switching the power on and off. |
| Photoresistor  光敏电阻 | 75A5$LI`29VY0(KX~E]E9NF | 6}O`K}QR4E$[)KS3H14G82G | Photoresistors are special resistors made of semiconductor materials such as cadmium sulphide or cadmium selenide, whose working principle is based on the internal photoelectric effect. The stronger the light, the lower the resistance value, and as the light intensity rises, the resistance value decreases rapidly, and the bright resistance value can be as small as 1KΩ or less. Photoresistors are sensitive to light and are highly resistive when not illuminated, with dark resistance generally reaching 1.5 MΩ. |
| Variable resistor  可变电阻 | W2J8QL~`6~{@VK6Q@WZCQ_R | 2TOX47BRBSUHMC9H8Z7EFT82TOX47BRBSUHMC9H8Z7EFT8 | Adjustable resistors are a class of resistors, the size of which can be artificially adjusted to meet the needs of the circuit.  Adjustable resistors can be divided into many different models and types according to the size of the resistance value, the range of adjustment, the form of adjustment, the production process, the production material, the size of the volume, etc. They are divided into: adjustable resistors for electronic components, adjustable resistors for porcelain discs, adjustable resistors for chip, adjustable resistors for wirewound, etc. |
| Arduino Uno (ATMega328p) | 8S[0MKYA5@6T44NQ]_1I9TW | 5684~WT8C%]]WJ}%YO_~TIU 5684~WT8C%]]WJ}%YO_~TIU | Arduino is a convenient, flexible and easy to get started open source electronic prototyping platform. It includes hardware (various models of Arduino boards) and software (Arduino IDE). Developed by a European development team in the winter of 2005. |
| Servo  伺服机 | C(TJPLW)P9$XE2_AJDO5O@W  C(TJPLW)P9$XE2_AJDO5O@W | 6K@F2_F(OZ_66_N}1@B1HZH | It is a controller used to control servo motors, its role is similar to that of an inverter acting on an ordinary AC motor, and is part of a servo system, mainly used in high-precision positioning systems. It is generally used to control servo motors in three ways: position, speed and torque, to achieve high-precision positioning of the drive system, and is a high-end product of drive technology. |
| Ground  地面效应 | TWZB8STI[4%(K@@%DU%I25X | A@HUVBD$%}T5%MD$G336W$K | It is a hydrodynamic effect that allows the induced drag of a vehicle to be reduced while obtaining a higher lift-to-drag ratio than airborne flight: when a moving vehicle falls very close to the ground (or water), the pressure difference between the upper and lower part of the entire vehicle body increases and the lift increases steeply. The Soviet Union and China are the most advanced countries in developing wing-to-ground effect vehicles using this effect. |
| Battery | `W{CDGYV54]I`L2AUA%MRIV | QS]AQ4@A]_ZZ(WS~}6OJR)Y | As batteries come in different sizes, chemicals used and shapes, the IEC and ANSI bodies provide certain nomenclature for these batteries so that their specifications can be understood according to our needs. For example, consider an AA 1.5V type battery, as shown below. |
| Power Plug | RJTTJ$%7Z5X`LK[W)MNGW5D | YHRFAJ02R75WXQ~AZ3D5A)1 | Power plugs are devices that connect electrical appliances and other devices to the mains. Power sockets and plugs vary in appearance, rating, size and type depending on the country and region. Each country has a standard set by the government. Power plugs are also known as power strip plugs |
| 1. Bridge H桥 | 62L56[N5BH0$~5MJH_NC}OP | HQ_DP62C4UU5W8Q9]Z]J5U3 | An H-bridge is an electronic circuit that reverses the voltage/current at both ends of the load or output to which it is connected. These circuits are used in robotics and other practical applications for the inversion and speed control of DC motors, stepper motor control (bipolar stepper motors must also contain a motor controller with two H-bridges), most DC-AC converters in electrical energy conversion (e.g. inverters and frequency converters), some DC-DC converters (push-pull converters), and other power electronics. |