

Electrical and Electronics Symbols and Meanings

Diagram For All


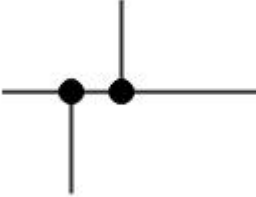
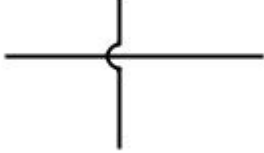
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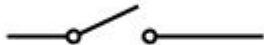
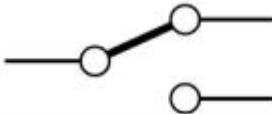
Electrical and Electronics Symbols and Meanings Chart

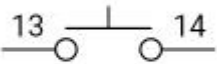

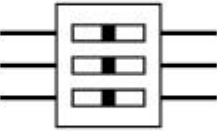
Electrical Symbols

Wires Symbols



Symbol	Name	Description
	Electrical Wire	It is the symbol that is used to represent a wire.
	Connected Wires	This Symbol represents the wire connected crossing.
	Not Connect Wires	This Symbol shows that wires are not connected on crossing.

Switches Symbols


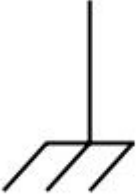

Symbol	Name	Description
	SPST Toggle Switch	It is the symbol of a switch that disconnects current when open.
	SPDT Toggle Switch	This Symbol of switch selects between two connections.

	<p>Push Button (N.O)</p>	<p>It is a symbol that denotes Momentary switch - normally open.</p>
	<p>Push Button Switch (N.C)</p>	<p>This denotes the symbol of a Momentary switch - normally closed.</p>
	<p>DIP Switch</p>	<p>It is the symbol of the DIP switch which is used for onboard configuration.</p>



Relays


Symbol	Name	Description
	<p>SPST Relay</p>	<p>This shows the symbol of relay that close connection by an electromagnet.</p>
	<p>SPDT Relay</p>	<p>This shows the symbol of relay that open connection by an electromagnet.</p>

Earthing

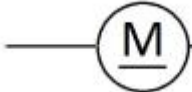
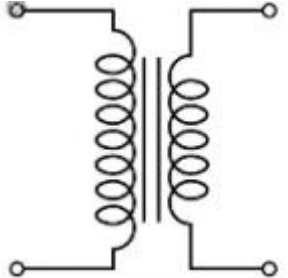
Symbol	Name	Description
	Earth Ground	This Symbol is used for zero potential reference and electrical shock protection.
	Chassis Ground	This symbol shows the wire Connected to the chassis of the circuit.
	Digital Ground	It refers to the reference voltage of digital-analog if.

Inductors

Symbol	Name	Description
	Indicator	Symbol of a Coil / solenoid that generates a magnetic field.
	Iron Core Inductor	It is the symbol of the iron core Inductor Which Includes iron.

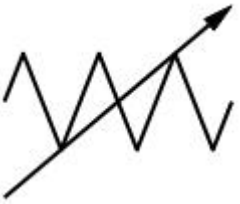
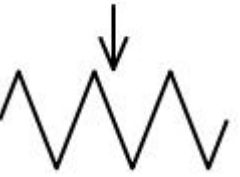
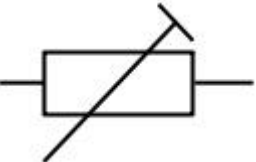
	Variable Inductor	It is the coil or solenoid that has a Variable magnetic field.
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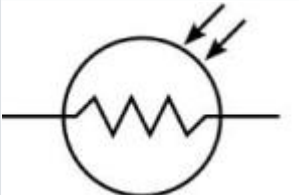
Motor and Transformer

Symbol	Name	Description
	Motor	Symbol of motor, which changes electric energy to kinetic energy.
	AC Transformer	Transformer changes AC voltage from high to low or low to high.

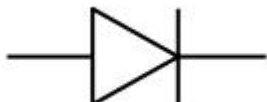
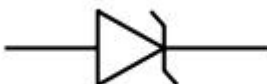
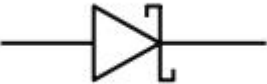

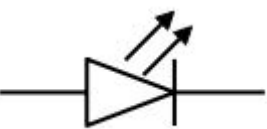
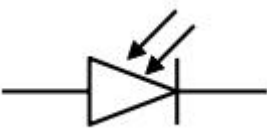
Electronics Symbols

Resistance

Symbol	Name	Description
	Variable Resistance	It is the symbol of an adjustable resistor which has 2 terminals.
	Potentiometer	It is the symbol of an adjustable resistor that has 3 terminals.
	Trimmer Resistor	It is the symbol of a trimmer which is also known as a Preset resistor.



	Thermistor	It is the symbol of a Thermal resistor that changes the resistance when temperature changes.
	Photoresistor	It is the symbol of Photo-resistor - change resistance with light intensity change.

Diode


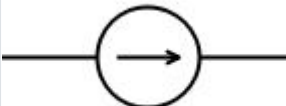

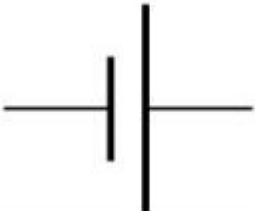
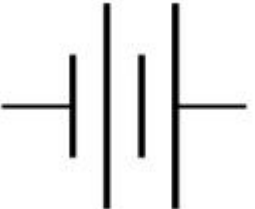
Symbol	Name	Description
	Diode	Diode allows current flow in one direction only - left (anode) to the right (cathode).
	Zener Diode	It allows current flow in one direction, but also can flow in the reverse direction when above breakdown volt.
	Schottky Diode	Schottky diode is a diode with a low voltage drop.
	Varicap Diode	This represents the varicap diode. Variable capacitance diode.
	Light Emitting Diode	LED emits light when current flows through it.
	Photodiode	This is the symbol of Photodiode that allows current flow when exposed to light.

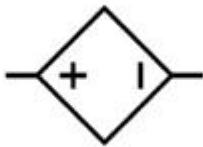

Capacitor

Symbol	Name	Description
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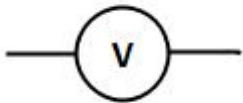
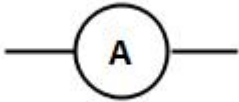
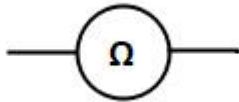
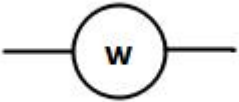
	Capacitor	Capacitor is used to store electric charge. It acts as a short circuit with AC and an open circuit with DC.
	Variable Capacitor	The Symbol represent the adjustable capacitance.

Sources

Symbol	Name	Description
	Voltage Source	It is the symbol of a voltage Source which generates constant voltage.
	Current Source	It is the symbol of a current Source which generates constant current.
	AC Voltage Source	This symbol shows the AC Voltage Source.
	Battery Cell	It is the symbol of single cell use to generate constant volt.
	Battery	It is the symbol of a battery which is the combination of two or more cells.

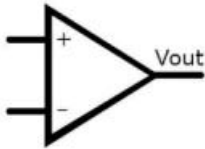

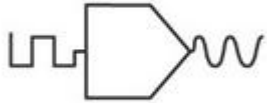
	Controlled Voltage Source	It is the symbol of a constant voltage Source that gives controllable voltage at the output.
	Controlled Current Source	It represents the controlled Current source which gives controllable current at the output.

Meter Symbols

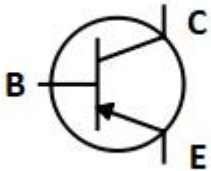
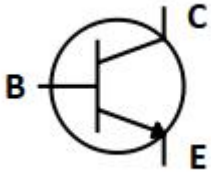
Symbol	Name	Description
	Voltmeter	It is the symbol that shows Voltmeter which is used to measure the voltage.
	Ammeter	It represents the ammeter whose work is to measure the current in the circuit.
	Ohmmeter	It is the symbol of the ohmmeter which is needed to measure the value of a resistor.
	Wattmeter	This represents the power meter which shows the power consumption.

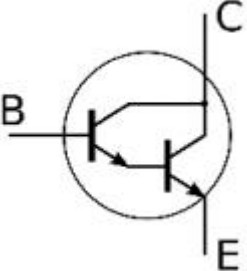
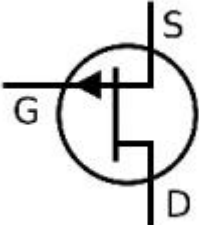
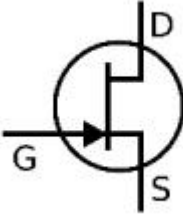
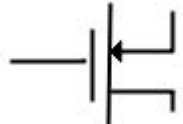
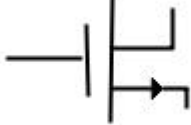
Converter and Amplifier Symbols

Symbol	Name	Description
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	Operational Amplifier	This operational gives Amplify input signal.
	Analog to Digital Converter	This is the symbol of ATD converts analog signal to digital numbers.
	Digital to Analog Converter	This is the symbol of DTA converts digital numbers to analog signals.




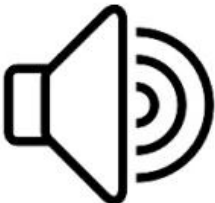
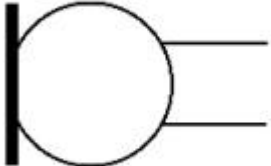

Transistors Symbols

Symbol	Name	Description
	NPN Bipolar Transistor	It allows current flow when the high potential is at the base (middle).
	PNP Bipolar Transistor	It allows current flow when the low potential is at the base (middle) of the symbol.

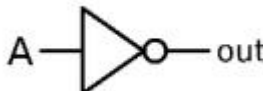

	Darlington Transistor	It is made from 2 bipolar transistors. Has total gain of the product of each gain.
	JFET-N Transistor	Symbol of JFET N-channel field effect transistor.
	JFET-P Transistor	This is the symbol of JFET P which is a P-channel effect transistor.
	NMOS Transistor	This is a symbol of Mosfet N-channel MOSFET transistor.
	PMOS Transistor	This is a symbol of Mosfet P-channel MOSFET transistor.

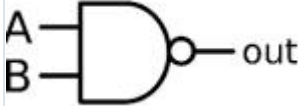
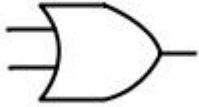
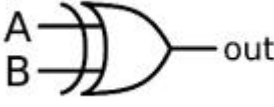
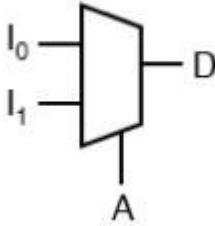
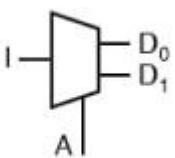
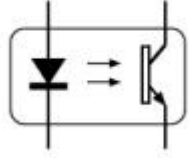
Utility Symbols

Symbol	Name	Description
	BUZZER	Produce a buzzing sound when current flows through it.

	Electric Bell	This is the symbol of Bell which Rings when activated.
	Fuse	The fuse disconnects when current above the threshold---used to protect a circuit from high currents.
	Bus	The bus symbol contains several wires. usually for data / address.
	Loudspeaker	Convert electrical signal to sound waves.
	Microphone	Microphone Converts sound waves to the electrical signal.
	Lamp/Light Bulb	This is the symbol of a lamp that glows when current flows through it.

Logic Gates and Multiplexer Symbols

Symbol	Name	Description
	Not Gate	This is the symbol of NOT Gate. Output 1 when input is 0.
	AND Gate	This is the symbol of AND Gate. Output 1 when both inputs are 1.

	NAND Gate	This shows NAND Gate, which Outputs 0 when both inputs are 1. (NOT + AND).
	OR Gate	This symbol shows or Gate, which Outputs 1 when any input is 1.
	XOR Gate	Symbol of XOR Gate, which Outputs 1 when inputs are different. (Exclusive OR).
	Multiplexer	Symbol of the multiplexer. Connect the output to the selected input line.
	DE multiplexer	This shows DE multiplexer. Connect selected output to the input line.
	Optocoupler	This shows Optocoupler. Optocoupler isolates connection to other board.



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