## Electric and electronic symbols for VCE Physics and VCE Systems Engineering

For each component a recommended symbol is shown in its normally accepted orientation/s, i.e. vertically and/or horizontally. In electronics there is a longstanding convention to show most components with a vertical orientation and for the circuit to read from the source or input on the left to the output or remaining circuit on the right. Other alternative symbols that may be encountered are also shown. Notes include relevant acceptance of symbol.

| Component group | Component | Recommended symbol | Alternative symbols | Notes |
| :---: | :---: | :---: | :---: | :---: |
| sources | cell | $\frac{1}{T} \quad-1$ | $-1{ }^{+}$ |  |
|  | battery, DC power supply | $\frac{\frac{1}{T}}{T}-1\|-1\|-$ |  |  |
|  | variable DC power supply |  |  |  |
|  | AC power supply |  |  |  |
| resistors | resistor |  | $\cdots$ W | Alternative symbol now regarded as outdated. |


| Component group | Component | Recommended symbol | Alternative symbols | Notes |
| :---: | :---: | :---: | :---: | :---: |
|  | variable resistor, potentiometer, voltage divider |  | $\cdots \cdots-j$ | A variable resistor where the variation is achieved by use of a sliding contact. |
|  | variable resistor |  | MAn | A general symbol for a variable resistor where the means of variation is not specified. |
|  | light-dependent resistor (LDR) |  |  |  |
|  | filament globe |  | $-\otimes$ |  |
|  | thermistor |  |  |  |
|  | fuse |  | -o<0- |  |


| Component group | Component | Recommended symbol | Alternative symbols | Notes |
| :---: | :---: | :---: | :---: | :---: |
| capacitors | (non-polarised) capacitor | $\frac{\perp}{\top} \quad-\vdash$ | H1 |  |
|  | variable capacitor | $\neq 1$ | $H K \quad H A$ |  |
|  | polarised capacitor, electrolytic capacitor | $\stackrel{+}{\rightleftharpoons} \quad+\\|-$ | $\pm \vdash \quad-H-\quad \pm ト$ |  |
| transformers | iron-cored transformer (one secondary winding) |  |  |  |
|  | iron-cored transformer (one secondary winding -centre-tapped) |  |  |  |
|  | iron-cored transformer (two secondary windings) |  |  |  |


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| :---: | :---: | :---: | :---: | :---: |
| diodes | junction diode |  |  | Additional alternative symbols for all diodes include those where the single straight-line section of the symbol is shown as a heavier line. |
|  | Zener diode | $-D \quad \frac{1}{\eta}$ | $\forall \rightarrow-\perp \rightarrow \rightarrow$ <br> ( $-(\rightarrow)$ ( $\rightarrow$ |  |
|  | photo diode |  |  |  |
|  | light-emitting diode (LED) | $\xrightarrow{\square}$ |  |  |

