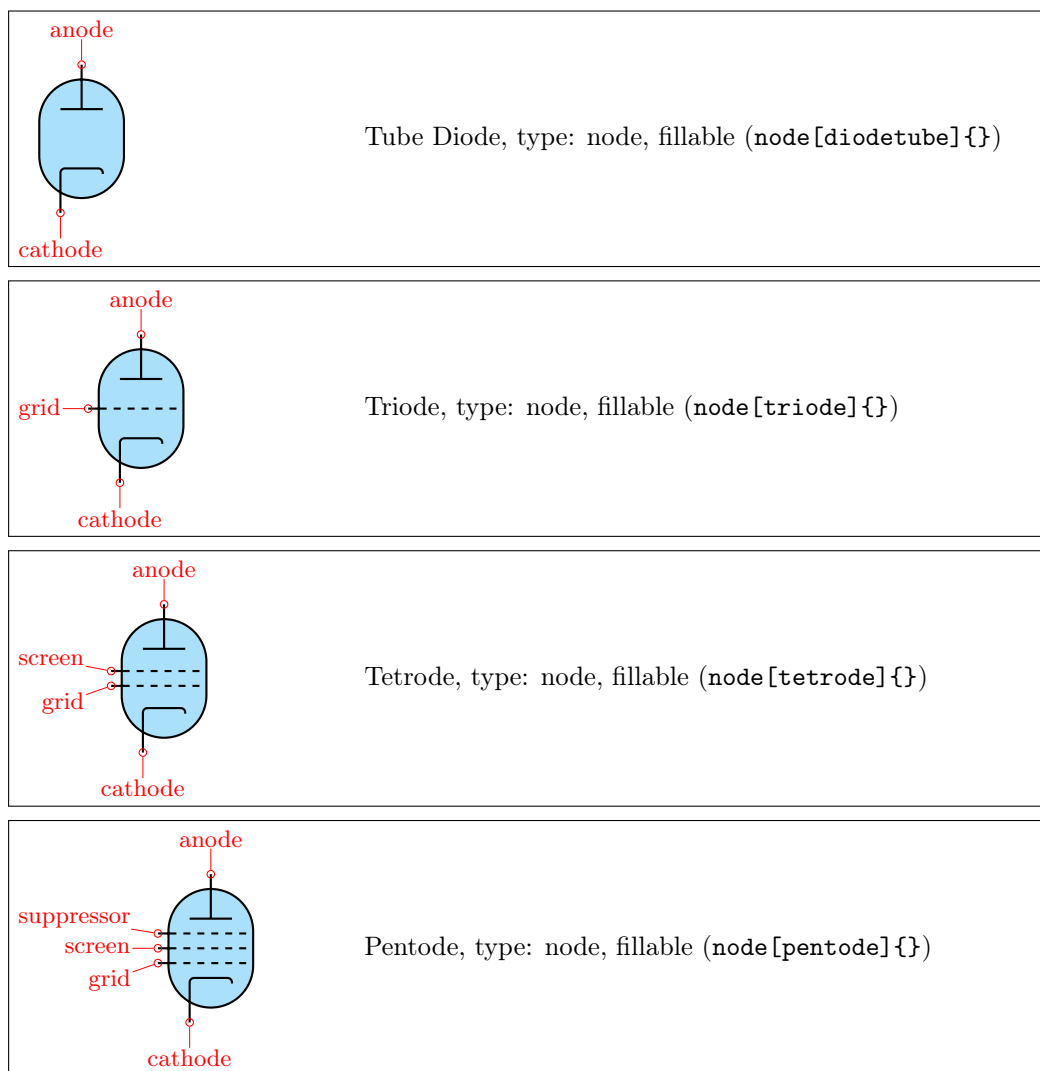


# CircuiTikZ – Electronic Tubes

Jesse op den Brouw\*

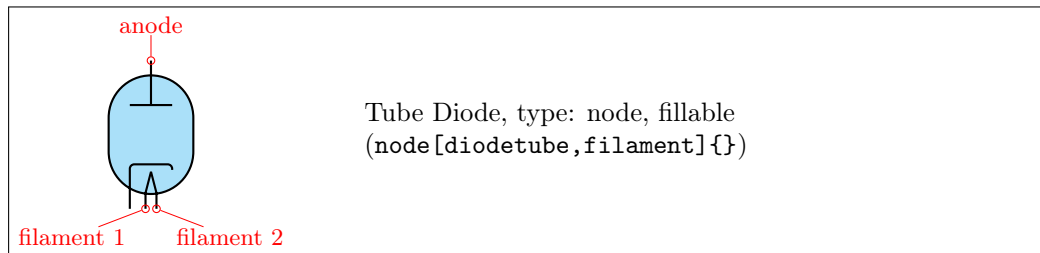
June 11, 2019



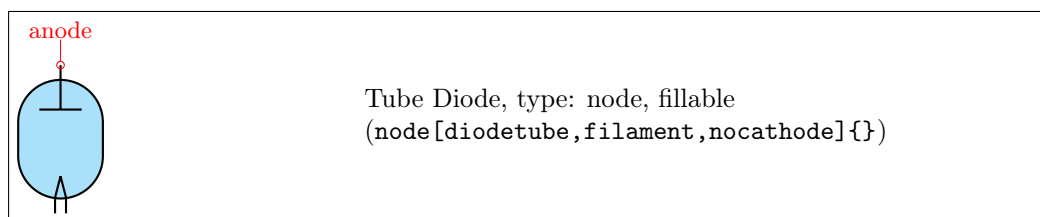
Normally, the filament is not drawn. If you want a filament, put the `filament` option in the node description:

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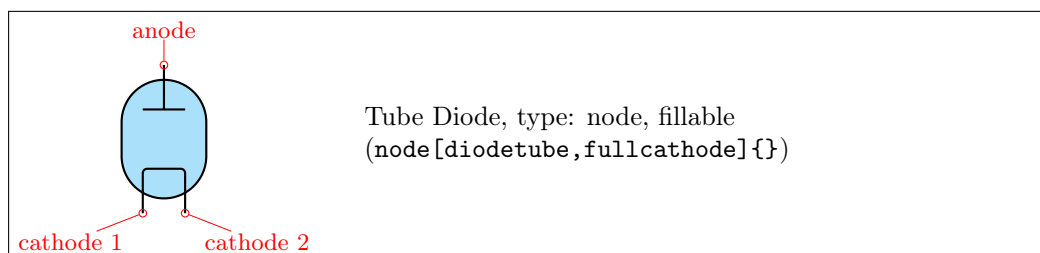
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Sometimes, you don't want the cathode to be drawn (but you do want the filament). Use the `nocathode` option in the node description:



If you want a full cathode to be drawn, use the `fullcathode` option in the node description. You can then use the anchors `cathode 1` and `cathode 2`.



Example triode amplifier:

```

1 \draw (0,0) node (start) {}
2       to[sV=$V_i$] ++(0,2+\ctikzvalof{tubes/triode/height})
3       to[C=$C_i$] ++(2,0) node (Rg) {}
4       to[R=$R_g$] (Rg |- start)
5 (Rg)   to[short,*-] ++(1,0)
6       node[triode,anchor=grid] (Tri) {} ++(2,0)
7 (Tri.cathode) to[R=$R_c$, -*] (Tri.cathode |- start)
8 (Tri.anode)  to [R=$R_a$] ++(0,2)
9           to [short] ++(3.5,0) node(Vatop) {}
10          to [V<=$V_a$] (Vatop |- start)
11          to [short] (start)
12 (Tri.anode) ++(0,0.2) to[C=$C_o$,*-o] ++(2,0)
13 (Tri.cathode) ++(0,-0.2) to[short,*-] ++(1.5,0) node(Cctop) {}
14          to[C=$C_c$, -*] (start -| Cctop)
15 ;
16 \draw[red,thin] (Tri.north west) rectangle (Tri.south east);
17 \draw[blue] (Tri.east) node[right] {$\frac{1}{2}$ECC83};

```

