Claims

1. An electrical resistor, comprising:

a carrier layer having a first side and a second side facing away from the first side;

a resistance conductor applied to a first side of said carrier layer; and

two connection elements each electrically conductively connected to said resistance conductor;

each of said two connection elements being configured for welding or soldering to a respective electrical contact;

said resistance conductor having an overlap region for each connection element, said overlap region overlapping the respective said connection element and electrically conductively connecting the corresponding said connection element;

a metal layer disposed on the second side of said carrier layer, said metal layer forming a heat sink; and

wherein at least one of the following is true: said connection elements form portions of said metal layer or said connection elements are arranged on the second side of said carrier layer.

2. The electrical resistor according to claim 1 wherein said connection elements are arranged on the first side of the carrier layer.

3. The electrical resistor according to claim 1, wherein said metal layer comprises a material selected from the group consisting of Cu; an alloy comprising Cu and Ni; Ni; Nb; Ta; a high-grade steel; an alloy comprising Cu, Ni and Mn; an alloy comprising 55 % by weight Cu, 44 % by weight Ni and 1 % by weight Mn.

4. The electrical resistor according to claim 1, wherein said metal layer consists of a material selected from the group consisting of Cu; an alloy comprising Cu and Ni; Ni; Nb; Ta; a high-grade steel; an alloy comprising Cu, Ni and Mn; and an alloy comprising 55% by weight Cu, 44% by weight Ni and 1% by weight Mn.

5. The electrical resistor according to claim 1, wherein said two regions of said resistance conductor are connected to one another via a meandering portion of said resistance conductor.

6. The electrical resistor according to claim 1, wherein said resistance conductor consists of a metal selected from the group consisting of: Ti, Au, Cu, Ni, Pd, Nb, Cr.

7. The electrical resistor according to claim 1, wherein said resistance conductor comprises at least one metal selected from the group consisting of Ti, Au, Cu, Ni, Pd, Nb and Cr.

8. An implantable defibrillator comprising an electrical resistor according to claim 1.

9. An electrical resistor, comprising:
a carrier layer;
a resistance conductor applied to said carrier layer; and two connection elements each electrically conductively connected to said resistance conductor;
each of said two connection elements being configured for welding or soldering to a respective electrical contact; and
said resistance conductor for each connection element having an overlap region overlapping the respective said connection element and electrically conductively connecting the corresponding said connection element, each of said overlap regions forming a plated through-hole, each of said regions extending through a through-opening in said carrier layer and electrically conductively connecting the corresponding said connection element.

10. The electrical resistor according to claim 9, comprising a metal layer applied to each of said overlap regions for local resistance reduction, with each said overlap region being arranged between the corresponding said metal layer and the corresponding said connection element.

11. An electrical resistor, comprising:
a carrier layer:
a resistance conductor applied to said carrier layer; and two connection elements each electrically conductively connected to said resistance conductor;
each of said two connection elements being configured for welding or soldering to a respective electrical contact; and
said resistance conductor having an overlap region for each connection element, said overlap region overlapping the respective said connection element and electrically conductively connecting the corresponding said connection element, wherein said resistance conductor is arranged on a first side of said carrier layer, and a metal layer is disposed on a second side of said carrier layer facing away from the first side, said metal layer forming a heat sink;
first and second insulation layers, said first insulation layer being connected via an adhesive layer to the first side of said carrier layer and covering said resistance conductor, and said second insulation layer being connected via an adhesive layer to a second side of said carrier layer and/or to said metal layer, wherein said second insulation layer covers said metal layer at least in portions thereof.

12. The electrical resistor according to claim 11, wherein said connection elements protrude from said resistor between said two insulation layers.

13. A method for producing an electrical resistor, the method comprising the following steps:
connecting a carrier layer to a metal layer, the metal layer forming a heat sink of the resistor and two connection elements of the resistor,
forming a separate through-opening for each of the connection elements, each of the through-openings being associated with the corresponding connection element and extending through the carrier layer towards the associated connection element; and
applying an electrically conductive material to a first side of the carrier layer so as to form a resistance conductor, with the resistance conductor extending through the corresponding through-opening towards the corresponding connection element and contacting the respective connection element electrically conductively, and thereby

producing an electrically conductive connection between the resistance conductor and the two connection elements.

14. The method according to claim 13, which comprises, in order to form the resistance conductor, applying the electrically conductive material to the carrier layer by coating the carrier layer with the material.

15. The method according to claim 13, which comprises:
adhesively bonding a first insulation layer to the first side of the carrier layer, and thereby covering the resistance conductor;
adhesively bonding a second insulation layer to a second side of the carrier layer averted from the first side and/or to the metal layer to thereby cover the metal layer at least in some portions.