CLAIMS:

1. A fuse element (12_1; 12_2), comprising two connecting contacts (24_1', 24_1"; 24_2', 24_2") and an interposed conductive track (26_1; 26_2), wherein the conductive track (26_1; 26_2) has a reduced line cross-section in relation to the connecting contacts (24_1', 24_1"; 24_2', 24_2") at least in some sections, further comprising at least one overlay (16_1; 16_2', 16_2"), wherein the fuse element (12_1; 12_2) and the overlay (16_1; 16_2', 16_2") each comprise materials which undergo diffusion when a predetermined ambient temperature is exceeded and when an electric current is conducted by the fuse element (12_1; 12_2), wherein the at least one overlay (16_1) is arranged within the conductive track (26_1) adjacent to one of the connecting contacts (24_1', 24_1") of the fuse element (12_1).

2. The fuse element (12_1; 12_2) according to claim 1, wherein the at least one overlay (16_1; 16_2', 16_2") is arranged at least in sections within the conductive track (26_1; 26_2).

~~3. The fuse element (12_1) according to claim 1 or 2, wherein the at least one overlay (16_1) is arranged within the conductive track (26_1) adjacent to one of the connecting contacts (24_1', 24_1") of the fuse element (12_1).~~

~~4.~~3. The fuse element (12_2) according to claim 1 or 2, wherein the line cross-section of the conductive track (26_2) increasingly converges step-by-step to the line cross-section of the connecting contacts (24_2', 24_2").

~~5.~~4. The fuse element (12_2) according to claim 3~~4~~, wherein the at least one overlay (16_2', 16_2") is arranged at least in sections within the conductive track (26_2) in a region of the gradually increasing line cross-section.

~~6.~~5. The fuse element (12_2) according to claim 3~~4 or 5~~, wherein the at least one overlay (16_2', 16_2") is arranged in a region of the conductive track (26_2) with a gradually increasing line cross-section adjacent to a section of the conductive track (26_2) with minimal line cross-section.

~~7.~~6. The fuse element (12_1; 12_2) according to ~~one of the preceding~~ claim~~s~~ 1 or 2, further comprising at least one recess (20_1; 20_2', 20_2") which is introduced into the conductive track (26_1; 26_2) and in which the at least one overlay (16_1; 16_2', 16_2") is arranged.

~~8.~~7. The fuse element (12_1; 12_2) according to claim 6~~7~~, wherein the at least one recess (20_1; 20_2', 20_2") is oriented in a continuously transverse manner in relation to the longitudinal direction of the conductive track (26_1; 26_2).

~~9.~~8. The fuse element (12_1; 12_2) according to ~~one of the preceding~~ claim~~s~~ 1 or 2, wherein the material of the fuse element (12_1; 12_2) comprises copper and the material of the overlay (16_1; 16_2', 16_2") comprises tin.

~~10.~~9. ~~The~~A fuse (10), comprising at least one fuse element (12; 12', 12") according to ~~one of the preceding~~ claim~~s~~ 1 or 2 and further comprising a base support (14) made of an electrically insulating material, wherein the fuse element (12; 12', 12") is arranged on a surface of the base support (14).

~~11.~~10. The fuse (10) according to claim 9~~10~~, wherein the fuse element (12', 12") is arranged on opposite surfaces of the base support (14).

~~12.~~11. The fuse (10) according to claim 9~~10 or 11~~, further comprising two base contacts (18', 18") which are each electrically connected to connecting contacts of the fuse elements (12', 12") which are opposite the base support (14).

~~13.~~12. The fuse (10) according to ~~one of the~~ claim~~s~~ 9~~10 to 12~~, wherein the base support (14) comprises a Rogers4000 material.

~~14.~~13. The fuse (10) according to ~~one of the~~ claim~~s~~ 9~~10 to 13~~, wherein the at least one fuse element (12; 12', 12") is coated with a protective lacquer (22; 22', 22")~~, especially a protective polymer lacquer~~.

~~15.~~14. A method for producing a fuse (10), comprising the steps of:
providing at least one fuse element (12; 12', 12") having two connecting contacts (24', 24") and an interposed conductive track (26), such that the conductive track (26) has a reduced line cross-section in relation to the connecting contacts (24', 24") at least in some sections;
providing a base support (14);
providing the fuse element (12; 12', 12") with at least one overlay (16; 16', 16"), wherein the at least one overlay (16; 16', 16") is arranged within the conductive track (26) adjacent to one of the connecting contacts (24', 24") of the fuse element (12; 12', 12"), wherein the fuse element (12; 12', 12") and the overlay (16; 16', 16") are each selected from materials which undergo diffusion when a predetermined ambient temperature is exceeded and when an electric current is conducted by the fuse element (12; 12', 12"), and
arranging the at least one fuse element (12; 12', 12") on the base support (14).

~~16.~~15. The method according to claim 1~~4~~5, wherein the at least one overlay (16; 16', 16") is arranged at least in sections within the conductive track (26) of the fuse element (12; 12', 12").

~~17. The method according to claim 15 or 16, wherein the at least one overlay (16; 16', 16") is arranged within the conductive track (26) adjacent to one of the connecting contacts (24', 24") of the fuse element (12; 12', 12").~~

~~18.~~16. The method according to ~~one of the~~ claim~~s~~ 13~~5 to 17~~ or 14, wherein the step of providing the fuse element (12; 12', 12") with the at least one overlay (16; 16', 16") comprises arranging the overlay (16; 16', 16") in at least one recess (20; 20', 20") introduced into the conductive track (26).

~~19.~~17. An SMD fuse, comprising a fuse (10) according to ~~one of the~~ claim~~s~~ 9~~10 to 14~~.

~~20.~~18. An SMD circuit, comprising an SMD fuse according to claim 17~~9~~.

~~21.~~19. The fuse (10) according to claim 9, wherein the at least one fuse element (12; 12', 12") is coated with a protective lacquer (22; 22’, 22"), which is a protective polymer lacquer.