

CLAIMS

1. Capacitor assembly (20, 30, 31, 40, 45, 50), comprising:
a printed circuit board (200) comprising a first conductive trace (220) and a second conductive trace (230), and
5 a first row (151) of capacitors comprising a plurality of surface mounted capacitor elements (161-164), wherein each of the plurality of surface mounted capacitor elements comprises a pair of outer electrodes (171, 172),
wherein, of each of the plurality of capacitor elements (161-164), one (171) of the pair of outer electrodes is mounted to the first conductive trace (220)
10 and defines a first junction, and the other one (172) of the pair of outer electrodes is mounted to the second conductive trace (230) and defines a second junction,
wherein the first junction and the second junction define a first capacitor longitudinal axis (183),
characterized in that the first conductive trace (220) has a first
15 current flow direction (141) with a first oblique angle (α) relative to the first capacitor longitudinal axis (183).
2. Capacitor assembly according to claim 1, wherein the second conductive trace (230) has a second current flow direction (142) with a second oblique angle (β) relative to the first capacitor longitudinal axis (183).
- 20 3. Capacitor assembly (30, 31) according to claim 1 or 2, comprising a second row (251) of capacitors connected in series with the first row (151) of capacitors,
wherein the printed circuit board (200) comprises a third conductive trace (240),
25 wherein the second row of capacitors comprises a plurality of surface mounted capacitor elements (161-164), wherein each of the plurality of surface mounted capacitor elements of the second row of capacitors comprises a pair of outer electrodes (171-172),
wherein, of each of the plurality of capacitor elements of the
30 second row of capacitors, one (171) of the pair of outer electrodes is mounted to the second conductive trace (230) and defines a third junction, and the other one (172) of the pair of outer electrodes is mounted to the third conductive trace (240) and defines a fourth junction,
wherein the third junction and the fourth junction define a second
35 capacitor longitudinal axis (184),

wherein the second conductive trace (230) has a second current flow direction (142) with a third oblique angle (γ) relative to the second capacitor longitudinal axis (184).

4. Capacitor assembly according to claim 3, wherein the first
5 oblique angle (α) and the third oblique angle (γ) have opposite sign.

5. Capacitor assembly according to claim 3 or 4, wherein the second conductive trace (230) has a second current flow direction (142) with a second oblique angle (β) relative to the first capacitor longitudinal axis (183), wherein the third conductive trace (240) has a third current flow direction (143) with a fourth oblique
10 angle (δ) relative to the second capacitor longitudinal axis (184), wherein the first oblique angle (α) and the second oblique angle (β) have opposite sign, and wherein the third oblique angle (γ) and the fourth oblique angle (δ) have opposite sign.

6. Capacitor assembly according to any one of the claims 3 to 5, wherein the first oblique angle (α), optionally the second oblique angle (β), the third
15 oblique angle (γ) and optionally the fourth oblique angle (δ) have equal absolute magnitude.

7. Capacitor assembly (45) according to any one of the previous claims, comprising a third row of capacitors (151'),

wherein the printed circuit board (200) comprises a fourth
20 conductive trace (220') and a fifth conductive trace (230'),

wherein the third row of capacitors (151') comprises a plurality of surface mounted capacitor elements (161-164), wherein each of the plurality of surface mounted capacitor elements of the third row of capacitors comprises a pair of outer electrodes (171, 172),

25 wherein, of each of the plurality of capacitor elements of the third row of capacitors, one (171) of the pair of outer electrodes is mounted to the fourth conductive trace (220') and defines a fifth junction, and the other one (172) of the pair of outer electrodes is mounted to the fifth conductive trace (230') and defines a sixth junction,

30 wherein the fifth junction and the sixth junction define a third capacitor longitudinal axis,

wherein the fourth conductive trace (220') has a fourth current flow direction having a fourth oblique angle (α') relative to the third capacitor longitudinal axis.

8. Capacitor assembly according to claim 7, wherein the third row of capacitors (151') is arranged electrically in parallel to the first row of capacitors (151).

9. Capacitor assembly according to any one of the claims 3 to 6, wherein the first row (151) of capacitors, the second row (251) of capacitors, the first conductive trace (220), the second conductive trace (230) and the third conductive trace (240) form a capacitor arrangement, wherein the capacitor assembly comprises a plurality of the capacitor arrangements arranged electrically in parallel on the printed circuit board (200).

10. Capacitor assembly according to claim 9, wherein respective ones of the first oblique angle (α), optionally the second oblique angle (β), the third oblique angle (γ) and optionally the fourth oblique angle (δ) of the plurality of capacitor arrangements have equal absolute magnitude.

11. Capacitor assembly according to claim 9 or 10, wherein respective ones of the first oblique angle (α , α'), the second oblique angle (β , β'), the third oblique angle and the fourth oblique angle of juxtaposed capacitor arrangements have alternating sign.

12. Capacitor assembly according to claim 11, wherein juxtaposed capacitor arrangements have respective first (220, 220'), second and third conductive traces that are alternatingly conductively coupled.

13. Capacitor assembly according to any one of the claims 3 to 12, wherein different rows (151, 151', 251) of capacitors comprise a same number of surface mounted capacitors.

14. Capacitor assembly according to any one of the preceding claims, wherein a current flow direction (142) in a conductive trace (230) coupling consecutive rows (151, 251) of capacitors is defined as a straight line between corresponding outer electrodes in junctions arranged at opposite ends of the respective conductive trace.

15. Capacitor assembly according to any one of the preceding claims, wherein the absolute magnitude of the first oblique angle (α), optionally the second oblique angle (β), optionally the third oblique angle (γ) and/or optionally the fourth oblique angle (α') is between 20° and 70°, advantageously between 30° and 60°.

16. Capacitor assembly of any one of the preceding claims, wherein the first (220), second (230) and optionally the third (240), fourth (220') and fifth (230') conductive traces are arranged in one or more layers of the printed circuit board (200).

17. Electrical circuit, comprising a power supply and the capacitor assembly of any one of the preceding claims, wherein the capacitor assembly is connected to the power supply such that a substantial amount of power emitted by the power supply is configured to flow through the capacitor assembly during operation.

5 18. Electrical circuit (61, 65), comprising an inductor (62, 66) and at least one capacitor assembly of any one of the claims 1 to 16, wherein the inductor and the at least one capacitor assembly form an LC circuit.