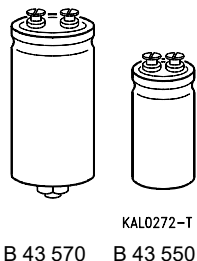


Maximum reliability and long useful life
Operating temperature up to 105 °C

Construction

- Charge-discharge proof, polar
- Aluminum case with insulating sleeve
- Poles with screw terminal connections
- Mounting with ring clips, clamps or threaded stud
- The bases of types with threaded stud and $d \leq 76,9$ mm are not insulated, types with $d = 91$ mm have fully insulated bases



Features

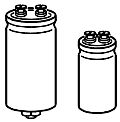
- Maximum reliability
- Good thermal characteristics and high ripple current characteristics
- Long useful life
- Wide temperature range
- All-welded construction ensures reliable electrical contact

Applications

- Highly professional power supplies
- Power electronics, e. g. capacitor banks in current converters

Specifications and characteristics in brief

| | |
|---|---|
| Rated voltage U_R | 160 to 400 V- |
| Surge voltage U_S | $1,15 \cdot U_R$ (for $U_R \leq 250$ V-) $1,10 \cdot U_R$ (for $U_R \geq 350$ V-) |
| Rated capacitance C_R | 150 to 15 000 μ F |
| Capacitance tolerance | - 10/+ 30 % \triangleq Q |
| Useful life | |
| 40 °C, U_R | > 200 000 h ($3 \cdot t_{R,105^\circ C}$) |
| 85 °C, $U_R, I_{R,max}$ | > 15 000 h |
| 105 °C, $U_R, I_{R,R}$ | > 6 000 h |
| Failure percentage | ≤ 1 % (during useful life) |
| Failure rate | ≤ 20 fit ($\leq 20 \cdot 10^{-9}/h$) |
| Voltage endurance test | 2 000 h, 105 °C (at $U_R, I_{R,R}$) |
| Leakage current I_{lka} (5 min, 20 °C) | $1\,000 \mu C \leq C_R \cdot U_R < 470\,000 \mu C$: $I_{lka} \leq 0,006 \mu A \cdot \left(\frac{C_R}{\mu F} \cdot \frac{U_R}{V} \right) + 4 \mu A$ |



B 43 550
B 43 570

Specifications and characteristics in brief

| | |
|---|--|
| Leakage current I_{lka} (5 min, 20 °C) | $C_R \cdot U_R \geq 470\,000 \mu\text{C}$ $I_{lka} \leq 0,3 \mu\text{A} \cdot \left(\frac{C_R}{\mu\text{F}} \cdot \frac{U_R}{\text{V}} \right)^{0,7} + 4 \mu\text{A}$ |
| Self-inductance L_{ESL} | $d = 35,7 \text{ mm}$: approx. 10 nH $d = 51,6 \text{ mm}$: approx. 15 nH $d \geq 64,3 \text{ mm}$: approx. 20 nH |
| IEC climatic category | in accordance with IEC 68-1 $\leq 350 \text{ V-}$: 40/105/56 (-40 °C/+105 °C, 56 days damp heat test) ¹⁾ 400 V- : 25/105/56 (-25 °C/+105 °C, 56 days damp heat test) |
| Detail specifications | similar to CECC 30 301-803, CECC 30 301-807, (similar to CECC 30 301-046, similar to DIN 45 910 part 128) |
| Sectional specifications | IEC 384-4 (DIN 45 910 part 12) |
| Vibration resistance | in accordance with IEC 68-2-6, test Fc: displacement amplitude 0,75 mm, frequency range 10 to 55 Hz, acceleration max. 10 g, duration 3 × 2 h |

Due to the current load capability of the contact elements, the following current limits must not be exceeded, even if the frequency and temperature factors have been taken into account:

| | | | | |
|--------------------|------------------------|---------|---------|---------|
| Capacitor diameter | $\leq 51,6 \text{ mm}$ | 64,3 mm | 76,9 mm | 91,0 mm |
| Maximum current | 30 A | 40 A | 50 A | 60 A |

Accessories

The following items are included in the delivery package, but are not fastened to the capacitors:

| | Thread | Toothed washers | Screws/Nuts | Maximum torque |
|---------------|--------|-----------------|---|----------------|
| For terminals | M 5 | A 5,1 DIN 6797 | Cylinder-head screw M 5 × 8 DIN 84-4.8 | 2 Nm |
| | M 6 | A 6,4 DIN 6797 | Cylinder-head screw M 6 × 12 DIN 85-4.8 | 2,5 Nm |
| For mounting | M 8 | J 8,2 DIN 6797 | Hex nut BM 8 DIN 439 | 4 Nm |
| | M 12 | J 12,5 DIN 6797 | Hex nut BM 12 DIN 439 | 10 Nm |

The following must be ordered separately:

Ring clips

B 44 030 ([cf. page 142](#))

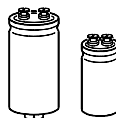
Clamps for capacitors with $d \geq 64,3 \text{ mm}$

B 44 030 ([cf. page 146](#))

Insulating parts

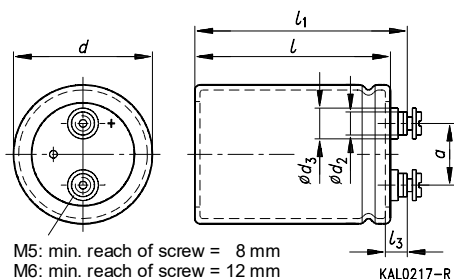
B 44 020 ([cf. page 139](#))

¹⁾ For case size 76,9 mm × 220,7 mm and \varnothing 91 mm: IEC climatic category 25/105/56



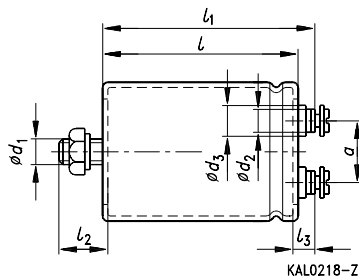
Outline drawings

Type B 43 550
Ring clip/clamp mounting



M5: min. reach of screw = 8 mm
M6: min. reach of screw = 12 mm

Type B 43 570
Threaded stud mounting



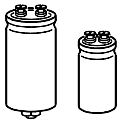
Positive pole marking: +

The base of all types with stud mounting and $d = 91$ mm is fully insulated (the lengths l and l_1 are increased by 0,5 mm in these cases). Also refer to the notes on mounting given [on page 141](#).

| Ter- minal | Dimensions (mm) with insulating sleeve | | | | | | | | | Approx. wt. (g) |
|---------------|--|-----------|-------------|-----------------|--------------------|-------|-------------------|-------------------|-------------------|--------------------|
| | d | $l \pm 1$ | $l_1 \pm 1$ | $l_2^{+0}_{-1}$ | l_3 | d_1 | $d_2 \text{ max}$ | $d_3 \text{ max}$ | $a^{+0,2}_{-0,4}$ | |
| M 5 | 35,7 $^{+0/-0,8}$ | 55,7 | 62,2 | 13 | 7,0 $^{+0,2/-1}$ | M 8 | 8,2 | 13,5 | 12,7 | 65 |
| M 5 | 35,7 $^{+0/-0,8}$ | 80,7 | 87,2 | 13 | 7,0 $^{+0,2/-1}$ | M 8 | 8,2 | 13,5 | 12,7 | 105 |
| M 5 | 35,7 $^{+0/-0,8}$ | 105,7 | 112,2 | 13 | 7,0 $^{+0,2/-1}$ | M 8 | 8,2 | 13,5 | 12,7 | 135 |
| M 5 | 51,6 $^{+0/-0,8}$ | 80,7 | 87,2 | 17 | 7,0 $^{+0,2/-1}$ | M 12 | 8,2 | 13,5 | 22,2 | 220 |
| M 5 | 51,6 $^{+0/-0,8}$ | 105,7 | 112,2 | 17 | 7,0 $^{+0,2/-1}$ | M 12 | 8,2 | 13,5 | 22,2 | 280 |
| M 5 | 64,3 $^{+0/-0,8}$ | 105,7 | 112,2 | 17 | 7,0 $^{+0,2/-1}$ | M 12 | 8,2 | 13,5 | 28,5 | 440 |
| M 6 | 76,9 $^{+0/-0,7}$ | 97,0 | 103,3 | 17 | 6,4 $^{+1,1/-0,8}$ | M 12 | 17,7 | 17,7 | 31,7 | 540 |
| M 6 | 76,9 $^{+0/-0,7}$ | 143,2 | 149,0 | 17 | 6,4 $^{+1,1/-0,8}$ | M 12 | 17,7 | 17,7 | 31,7 | 840 |
| M 6 | 76,9 $^{+0/-0,7}$ | 220,7 | 226,5 | 17 | 6,4 $^{+1,1/-0,8}$ | M 12 | 17,7 | 17,7 | 31,7 | 1300 |
| M 6 | 91,0 $^{+0/-2}$ | 144,5 | 149,8 | 17 | 6,4 $^{+1,1/-0,8}$ | M 12 | 17,7 | 17,7 | 31,7 | 1200 |

Packing units

| Capacitor diameter d | Packing units (pieces) |
|---------------------------|---------------------------|
| 35,7 mm | 72 |
| 51,6 mm | 36 |
| 64,3 mm | 20 |
| 76,9 mm | 16 |
| 91,0 mm | 8 |

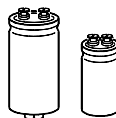


B 43 550
B 43 570

Overview of available types

| U_R (V-) | 160 | 250 | 350 | 400 |
|------------------|-----------------------------------|------------------------------|------------------------------|------------------------------|
| C_R (μ F) | Case dimensions $d \times l$ (mm) | | | |
| 150 | | | 35,7 × 55,7 | 35,7 × 55,7 |
| 220 | | 35,7 × 55,7 | 35,7 × 80,7 | 35,7 × 80,7 |
| 330 | 35,7 × 55,7 | 35,7 × 55,7 | 35,7 × 105,7 | 35,7 × 105,7 |
| 470 | 35,7 × 55,7 | 35,7 × 80,7 | 51,6 × 80,7 | 51,6 × 80,7 |
| 680 | 35,7 × 80,7 | 51,6 × 80,7 | 51,6 × 105,7 | 51,6 × 105,7 |
| 1 000 | 35,7 × 80,7 | 51,6 × 80,7 | 51,6 × 105,7 | 64,3 × 105,7 |
| 1 500 | 51,6 × 80,7 | 51,6 × 80,7 | 64,3 × 105,7 | 76,9 × 105,7 |
| 2 200 | 51,6 × 80,7 | 64,3 × 105,7 | 76,9 × 105,7 | 76,9 × 143,2 |
| 3 300 | 64,3 × 105,7 | 76,9 × 105,7 | 76,9 × 143,2 | 76,9 × 220,7 91,0 × 144,5 |
| 4 700 | 64,3 × 105,7 | 76,9 × 143,2 | 76,9 × 220,7 91,0 × 144,5 | 76,9 × 220,7 |
| 6 000 | | | 76,9 × 220,7 | |
| 6 800 | 76,9 × 105,7 | 76,9 × 143,2 | | |
| 10 000 | 76,9 × 143,2 | 76,9 × 220,7 91,0 × 144,5 | | |
| 15 000 | 76,9 × 220,7 91,0 × 144,5 | | | |

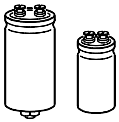
The capacitance and voltage ratings listed above are available in smaller cases upon request. Other voltage and capacitance ratings are also available upon request.



Technical data and ordering codes

| U_R | C_R | Case dimensions $d \times l$ mm | $R_{ESR, typ}$ 100 Hz 20 °C mΩ | $R_{ESR, max}$ 100 Hz 20 °C mΩ | Z_{max} 10 kHz 20 °C mΩ | $I_{~max}$ 100 Hz 40 °C A | $I_{~max}$ 100 Hz 85 °C A | $I_{~R}$ 100 Hz 105 °C A | Ordering code ¹⁾ Short code |
|-------------------------|--------------|---------------------------------------|---|---|------------------------------------|------------------------------------|------------------------------------|-----------------------------------|---|
| V- | μF | | | | | | | | |
| B43550-, B43570- | | | | | | | | | |
| 160 | 330 | 35,7 × 55,7 | 210 | 450 | 290 | 5,1 | 3,1 | 1,5 | -A1337-Q |
| | 470 | 35,7 × 55,7 | 150 | 240 | 200 | 6,0 | 3,7 | 1,8 | -A1477-Q |
| | 680 | 35,7 × 80,7 | 100 | 140 | 130 | 8,2 | 5,0 | 2,4 | -A1687-Q |
| | 1 000 | 35,7 × 80,7 | 70 | 100 | 98 | 9,8 | 6,0 | 2,9 | -C1108-Q |
| | 1 500 | 51,6 × 80,7 | 47 | 68 | 67 | 13 | 8,1 | 3,9 | -A1158-Q |
| | 2 200 | 51,6 × 80,7 | 33 | 50 | 49 | 16 | 9,7 | 4,7 | -C1228-Q |
| | 3 300 | 64,3 × 105,7 | 22 | 35 | 34 | 24 | 15 | 7,0 | -A1338-Q |
| | 4 700 | 64,3 × 105,7 | 16 | 27 | 26 | 28 | 17 | 8,2 | -A1478-Q |
| | 6 800 | 76,9 × 105,7 | 12 | 24 | 23 | 33 | 20 | 9,5 | -B1688-Q |
| | 10 000 | 76,9 × 143,2 | 9 | 18 | 17 | 43 | 26 | 12 | -B1109-Q |
| | 15 000 | 76,9 × 220,7 | 7 | 17 | 16 | 58 | 35 | 17 | -C1159-Q |
| 15 000 | 91,0 × 144,5 | 7 | 17 | 16 | 58 | 35 | 17 | -J1159-Q | |
| 250 | 220 | 35,7 × 55,7 | 220 | 440 | 330 | 5,0 | 3,0 | 1,5 | -A2227-Q |
| | 330 | 35,7 × 55,7 | 150 | 300 | 220 | 6,0 | 3,7 | 1,8 | -C2337-Q |
| | 470 | 35,7 × 80,7 | 100 | 190 | 160 | 8,2 | 5,0 | 2,4 | -C2477-Q |
| | 680 | 51,6 × 80,7 | 73 | 140 | 110 | 11 | 6,5 | 3,1 | -A2687-Q |
| | 1 000 | 51,6 × 80,7 | 50 | 100 | 82 | 13 | 7,9 | 3,8 | -C2108-Q |
| | 1 500 | 51,6 × 80,7 | 34 | 62 | 59 | 16 | 9,5 | 4,6 | -J2158-Q |
| | 2 200 | 64,3 × 105,7 | 24 | 45 | 44 | 23 | 14 | 6,7 | -A2228-Q |
| | 3 300 | 76,9 × 105,7 | 17 | 33 | 32 | 28 | 17 | 8,0 | -B2338-Q |
| | 4 700 | 76,9 × 143,2 | 12 | 27 | 26 | 37 | 22 | 11 | -B2478-Q |
| | 6 800 | 76,9 × 143,2 | 9 | 23 | 22 | 43 | 26 | 12 | -E2688-Q |
| | 10 000 | 76,9 × 220,7 | 9 | 23 | 22 | 50 | 31 | 15 | -A2109-Q |
| 10 000 | 91,0 × 144,5 | 8 | 23 | 22 | 50 | 31 | 15 | -J2109-Q | |

1) For instructions on how to determine ordering codes, refer to [page 130](#).

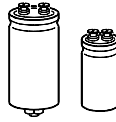


B 43 550
B 43 570

Technical data and ordering codes

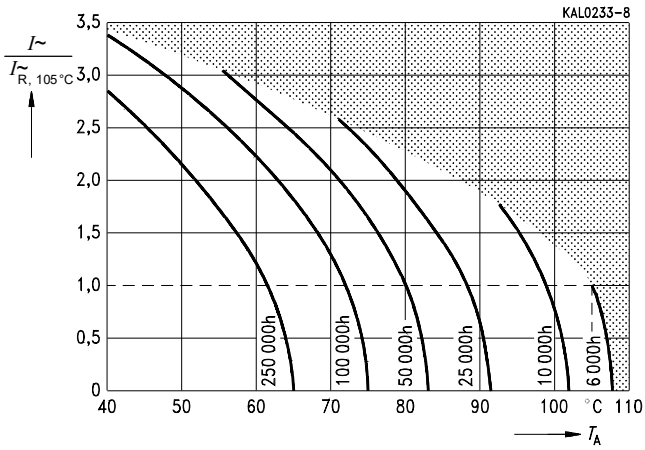
| U_R | C_R | Case dimensions $d \times l$ mm | $R_{ESR, typ}$ 100 Hz 20 °C mΩ | $R_{ESR, max}$ 100 Hz 20 °C mΩ | Z_{max} 10 kHz 20 °C mΩ | $I_{~max}$ 100 Hz 40 °C A | $I_{~max}$ 100 Hz 85 °C A | $I_{~R}$ 100 Hz 105 °C A | Ordering code ¹⁾ Short code |
|-------------------------|--------------|---------------------------------------|---|---|------------------------------------|------------------------------------|------------------------------------|-----------------------------------|---|
| V- | μF | | | | | | | | |
| B43550-, B43570- | | | | | | | | | |
| 350 | 150 | 35,7 × 55,7 | 270 | 600 | 410 | 4,5 | 2,7 | 1,3 | -A4157-Q |
| | 220 | 35,7 × 80,7 | 180 | 420 | 290 | 6,1 | 3,7 | 1,8 | -A4227-Q |
| | 330 | 35,7 × 105,7 | 120 | 280 | 190 | 8,3 | 5,0 | 2,4 | -A4337-Q |
| | 470 | 51,6 × 80,7 | 87 | 190 | 140 | 9,9 | 6,0 | 2,9 | -A4477-Q |
| | 680 | 51,6 × 105,7 | 60 | 130 | 100 | 13 | 7,9 | 3,8 | -A4687-Q |
| | 1 000 | 51,6 × 105,7 | 42 | 90 | 72 | 16 | 9,4 | 4,5 | -J4108-Q |
| | 1 500 | 64,3 × 105,7 | 29 | 60 | 52 | 21 | 13 | 6,1 | -A4158-Q |
| | 2 200 | 76,9 × 105,7 | 20 | 45 | 40 | 25 | 15 | 7,4 | -B4228-Q |
| | 3 300 | 76,9 × 143,2 | 14 | 30 | 29 | 34 | 21 | 9,9 | -B4338-Q |
| | 4 700 | 76,9 × 220,7 | 18 | 24 | 23 | 46 | 28 | 14 | -C4478-Q |
| 4 700 | 91,0 × 144,5 | 18 | 24 | 23 | 46 | 28 | 14 | -J4478-Q | |
| 6 000 | 76,9 × 220,7 | 14 | 20 | 19 | 50 | 32 | 15 | -C4608-Q | |
| 400 | 150 | 35,7 × 55,7 | 410 | 820 | 660 | 4,5 | 2,7 | 1,3 | -F157-Q |
| | 220 | 35,7 × 80,7 | 280 | 560 | 430 | 6,1 | 3,7 | 1,8 | -F227-Q |
| | 330 | 35,7 × 105,7 | 190 | 380 | 290 | 8,2 | 5,0 | 2,4 | -F337-Q |
| | 470 | 51,6 × 80,7 | 140 | 280 | 230 | 9,6 | 5,8 | 2,8 | -F477-Q |
| | 680 | 51,6 × 105,7 | 100 | 200 | 160 | 13 | 7,6 | 3,6 | -F687-Q |
| | 1 000 | 64,3 × 105,7 | 75 | 150 | 120 | 16 | 10 | 4,7 | -F108-Q |
| | 1 500 | 76,9 × 105,7 | 50 | 100 | 80 | 20 | 12 | 5,8 | -J158-Q |
| | 2 200 | 76,9 × 143,2 | 36 | 72 | 60 | 26 | 16 | 7,7 | -J228-Q |
| | 3 300 | 76,9 × 220,7 | 26 | 52 | 45 | 37 | 22 | 11 | -J338-Q |
| | 3 300 | 91,0 × 144,5 | 22 | 52 | 45 | 37 | 22 | 11 | -L338-Q |
| 4 700 | 76,9 × 220,7 | 20 | 40 | 36 | 42 | 26 | 12 | -H478-Q | |

1) To obtain the required ordering code, prefix the type number to the short code. E. g.: B43550-A4157-Q
B43550-.... (ring clip/clamp mounting)
B43570-.... (with threaded stud)

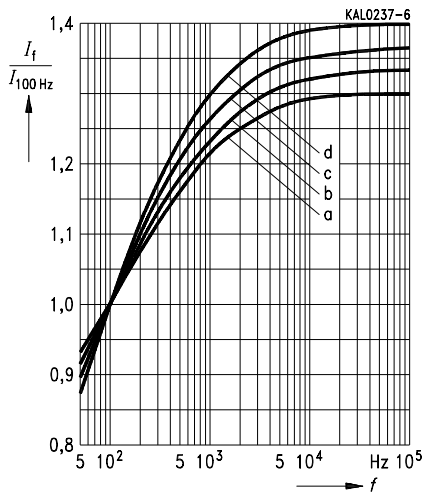


Useful life

versus ambient temperature T_A under ripple current operating conditions¹⁾

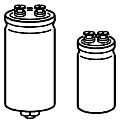


Permissible ripple current I_f versus frequency f



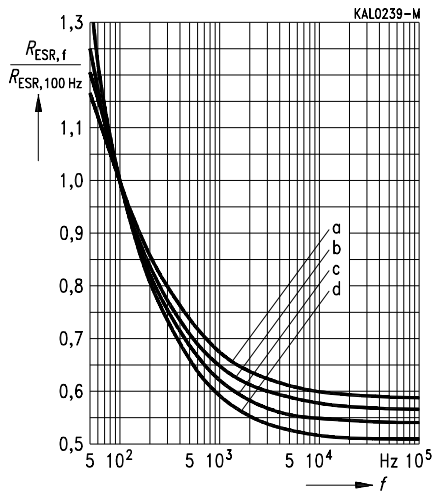
| | | | | | |
|----------|------|------|------|------|------|
| d (mm) | 35,7 | 51,6 | 64,3 | 76,9 | 91,0 |
| Curve | d | c | b | a | c |

1) Refer to [page 34](#) for an explanation on how to interpret the useful life graphs.



B 43 550
B 43 570

Equivalent series resistance R_{ESR}
versus frequency f
Typical behavior



| | | | | | |
|----------|------|------|------|------|------|
| d (mm) | 35,7 | 51,6 | 64,3 | 76,9 | 91,0 |
| Curve | d | c | b | a | a |

Impedance Z
versus frequency f
Typical behavior

