

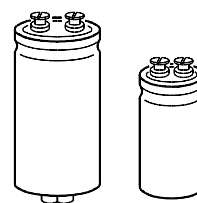
**Capacitors with Screw Terminals**  
**High-Performance Versions, LL Grade**

**B 43 550**  
**B 43 570**

**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



KAL0272-T

B 43 570    B 43 550

**Features**

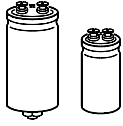
- Maximum reliability
- Good thermal characteristics and high ripple current characteristics
- Long useful life
- Wide temperature range
- All-welded construction ensures reliable electrical contact

**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 $\mu$ F
Capacitance tolerance	- 10/+ 30 % $\triangle$ Q
Useful life	
40 °C, $U_R$	> 200 000 h ( $3 \cdot I_{-R,105^\circ C}$ )
85 °C, $U_R, I_{-max}$	> 15 000 h
105 °C, $U_R, I_{-R}$	> 6 000 h
Failure percentage	$\leq 1$ % (during useful life)
Failure rate	$\leq 20$ fit ( $\leq 20 \cdot 10^{-9}/h$ )
Voltage endurance test	2 000 h, 105 °C (at $U_R, I_{-R}$ )
Leakage current $I_{kA}$ (5 min, 20 °C)	$1\,000 \mu C \leq C_R \cdot U_R < 470\,000 \mu C$ :  $I_{kA} \leq 0,006 \mu A \cdot \left( \frac{C_R}{\mu F} \cdot \frac{U_R}{V} \right) + 4 \mu A$



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**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) <sup>1)</sup> $400 \text{ V-}$ : 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  $d \geq 64,3 \text{ mm}$

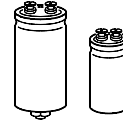
B 44 030 ([cf. page 146](#))

Insulating parts

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

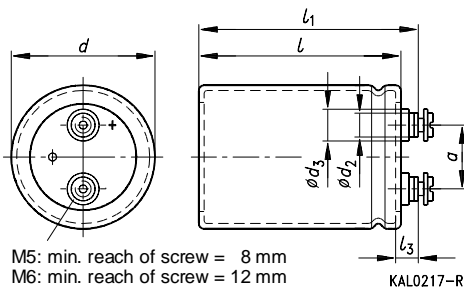
1) For case size 76,9 mm × 220,7 mm and  $\varnothing$  91 mm: IEC climatic category 25/105/56

**B 43 550**  
**B 43 570**

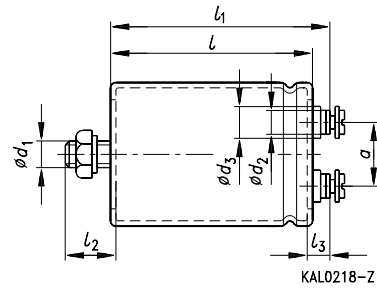


**Outline drawings**

**Type B 43 550**  
Ring clip/clamp mounting



**Type B 43 570**  
Threaded stud mounting



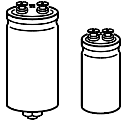
Positive pole marking: +

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



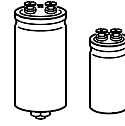
**B 43 550**  
**B 43 570**

**Overview of available types**

$U_R$ (V-)	160	250	350	400
$C_R$ ( $\mu$ 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.

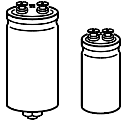
**B 43 550**  
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**Technical data and ordering codes**

$U_R$	$C_R$	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 <sup>1)</sup>  Short code
<b>B43550-, B43570-</b>									
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](#).



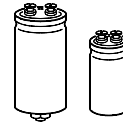
**B 43 550**  
**B 43 570**

**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	$I_{\sim max}$ 100 Hz 40 °C A	$I_{\sim max}$ 100 Hz 85 °C A	$I_{\sim R}$ 100 Hz 105 °C A	Ordering code <sup>1)</sup>  Short code
<b>B43550-, B43570-</b>									
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	

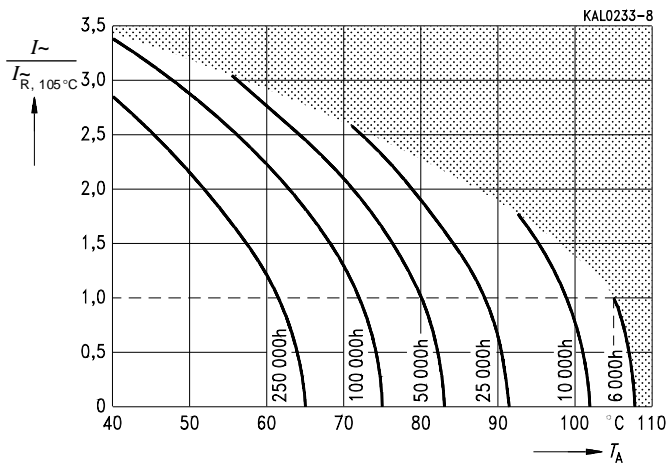
1) To obtain the required ordering code, prefix the type number to the short code. E. g.: B43550-A4157-Q  
B43550-.... (ring clip/clamp mounting)  
B43570-.... (with threaded stud)

B 43 550  
B 43 570

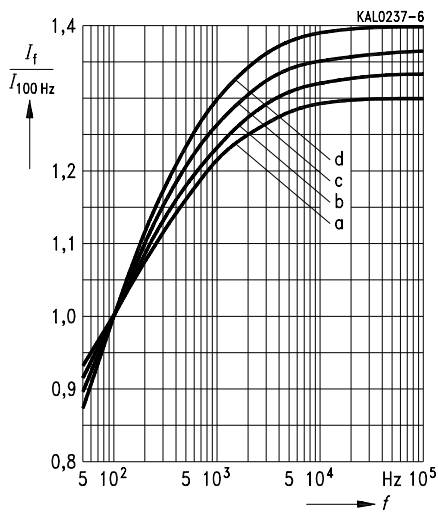


**Useful life**

versus ambient temperature  $T_A$  under ripple current operating conditions<sup>1)</sup>

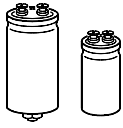


**Permissible ripple current  $I_f$**   
versus frequency  $f$



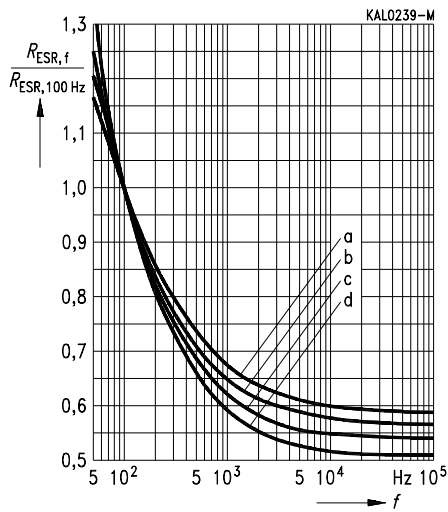
$d$ (mm)	35,7	51,6	64,3	76,9	91,0
Curve	d	c	b	a	c

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



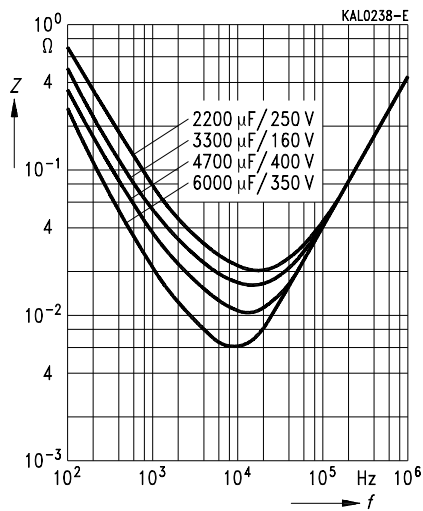
**B 43 550**  
**B 43 570**

**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





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