

**GP grade**

**Standard type with high ripple current capability**

**Rated voltage up to 500 V–**

**Construction**

- Charge-discharge proof, polar
- Aluminum case, fully insulated
- Overload protection by preset break point in case
- Solder pin mounting on printed circuit boards, pins fit standardized spacings on PCB
- Negative pole brought out to solder pin, but not insulated from case

**Features**

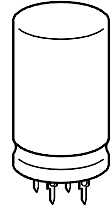
- Standard type with high ripple current capability
- Welded terminal connections ensure secure contacts and high reliability
- Low series resistance and low self-inductance
- Pinning ensures correct insertion

**Applications**

- Preferred components for switch-mode power supplies in consumer electronics
- Industrial applications, e.g. control systems

**Specifications and characteristics in brief**

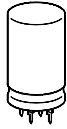
	B 41 306	B 43 306
Rated voltage $U_R$	16 ... 100 V–	250 ... 500 V–
Spitzenspannung $U_S$	$1,15 \cdot U_R$	$1,15 \cdot U_R$ (for $U_R \leq 250$ V–) $1,10 \cdot U_R$ (for $U_R \geq 385$ V–)
Rated capacitance $C_R$	470 ... 47 000 $\mu$ F	33 ... 1 000 $\mu$ F
Capacitance tolerance	$-10/+50\% \triangleq T$	$-10/+50\% \triangleq T$
Useful life		
40 °C, $U_R$	$> 200\,000$ h ( $1,5 \cdot I_{-R,85^\circ C}$ )	$> 200\,000$ h ( $1,7 \cdot I_{-R,85^\circ C}$ )
85 °C, $U_R$ ; $I_{-R}$	$> 4\,000$ h	$> 5\,000$ h
Failure percentage	$\leq 1\%$ (during useful life)	$\leq 1\%$ (during useful life)
Failure rate	$\leq 40$ fit ( $\leq 40 \cdot 10^{-9}/h$ )	$\leq 40$ fit ( $\leq 40 \cdot 10^{-9}/h$ )
Voltage endurance test	2 000 h, 85 °C (at $U_R$ )	2 000 h, 85 °C (at $U_R$ )
Leakage current $I_{lka}$ (5 min, 20 °C)	$I_{lka} \leq 0,3 \mu A \cdot \left(\frac{C_R}{\mu F} \cdot \frac{U_R}{V}\right)^{0,7} + 4 \mu A$	



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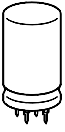
**Not for new design**

**B 41 306**  
**B 43 306**



**Specifications and characteristics in brief**

	B 41 306	B 43 306
Self-inductance $L_{ESL}$	approx. 10 nH	
IEC climatic category	in accordance with IEC 68-1 $\leq 385$ V-: 40/085/56 (-40 °C/+85 °C, 56 days damp heat test) $\geq 400$ V-: 25/085/56 (-25 °C/+85 °C, 56 days damp heat test)	
Detail specification	similar to CECC 30 301-047	
Sectional specification	IEC 384-4	
Vibration resistance	in accordance with IEC 68-2-6, test Fc: frequency range 10 ... 55 Hz, duration $3 \times 2$ h for $d = 25$ mm: displacement amplitude 0,75 mm, acceleration max. 10 g for $d \geq 30$ mm: displacement amplitude 0,35 mm, acceleration max. 5 g	



B 41 306  
B 43 306

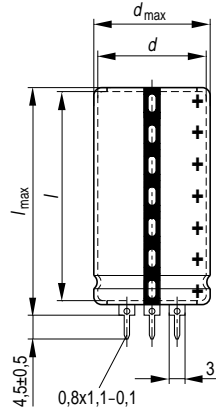
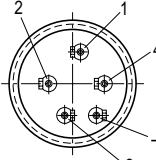
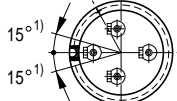
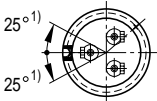
**Not for new design**

### Dimensional drawing

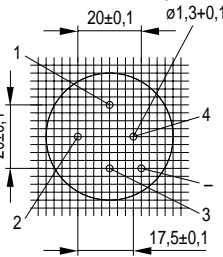
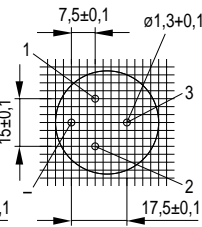
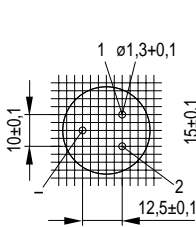
$d = 25 \text{ mm}$

$d = 30 \text{ and } 35 \text{ mm}$

$d = 40 \text{ mm}$



Mounting holes (view onto solder side)



KAL0402-Q

For  $d = 25$  and  $30 \text{ mm}$ : Plus and minus pole markings on the shrunk-on insulating sleeve.

For  $d = 35$  and  $40 \text{ mm}$ : Pole markings on the terminal. Plus: 1; Minus: -

All pin holes must be drilled into the PC-board, since the unconnected pins serve as mountings. These pins must be soldered to isolated pads or pads with the same potential as the negative pole.

Dimensions (mm)		Approximate weight (g)	Packing units Pieces
$d \times l$	$d_{\max} \times l_{\max}$		
$25 \times 30$	$25,8 \times 34$	22	384
$25 \times 35$	$25,8 \times 39$	22	256
$25 \times 40$	$25,8 \times 44$	29	256
$30 \times 35$	$30,8 \times 39$	32	240
$30 \times 40$	$30,8 \times 44$	36	160
$30 \times 45$	$30,8 \times 49$	36	160
$30 \times 50$	$30,8 \times 54$	42	160
$30 \times 55$	$30,8 \times 59$	46	160
$30 \times 70$	$30,8 \times 74$	58	80
$35 \times 45$	$35,8 \times 49$	53	144
$35 \times 50$	$35,8 \times 54$	59	44
$40 \times 50$	$40,8 \times 54$	76	96
$40 \times 55$	$40,8 \times 59$	83	96
$40 \times 70$	$40,8 \times 74$	103	48
$40 \times 100$	$40,8 \times 104$	153	48
$40 \times 105$	$40,8 \times 109$	160	48

1) Permissible range of positions for pole identification marks.

**Not for new design**

**B 41 306**  
**B 43 306**



**Overview of available types**

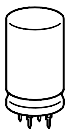
**Type B 41 306**

$U_R$ (V-)	16	25	40	63	100
$C_R$ ( $\mu$ F)	Case dimensions $d \times l$ (mm)				
470					25 × 40
1 000				25 × 40	30 × 40
2 200		25 × 30	30 × 40	30 × 40	35 × 50
4 700	25 × 30	30 × 40	30 × 40	35 × 50	40 × 70
10 000	30 × 40	30 × 50	30 × 50	40 × 70	
22 000	30 × 70	40 × 70			
47 000	40 × 70				

**Type B 43 306**

$U_R$ (V-)	250	385	400	450	500
$C_R$ ( $\mu$ F)	Case dimensions $d \times l$ (mm)				
33					25 × 35
47					30 × 35
68				30 × 35	30 × 40
100	25 × 40	30 × 40	30 × 35	30 × 40	30 × 55
150		30 × 40	30 × 35	30 × 45	35 × 50
220	30 × 40	30 × 40 30 × 50	30 × 45	30 × 55	40 × 50
330		35 × 45			40 × 70
470	30 × 50	40 × 70	40 × 50	40 × 55	40 × 100
1 000	40 × 70	40 × 100	40 × 100	40 × 105	

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



**B 41 306**  
**B 43 306**

**Not for new design**

**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	$I_{-R}$ 100 Hz 85 °C A	Ordering code 1)  Short code
<b>B41306-</b>								
16	4 700	25 × 30	48	95	81	5,5	1,9	-F4478-T
	10 000	30 × 40	34	63	54	7,5	2,6	-E4109-T
	22 000	30 × 70	24	41	36	11	3,7	-E4229-T
	47 000	40 × 70	17	30	27	15	5,0	-E4479-T
25	2 200	25 × 30	60	112	90	4,9	1,7	-F5228-T
	4 700	30 × 40	39	68	54	7,0	2,4	-E5478-T
	10 000	30 × 50	26	47	36	9,3	3,2	-E5109-T
	22 000	40 × 70	19	32	27	14	4,7	-E5229-T
40	2 200	30 × 40	48	86	72	6,4	2,2	-E7228-T
	4 700	30 × 40	30	54	45	8,1	2,8	-E7478-T
	10 000	30 × 50	20	36	31	12	3,2	-F7109-T
63	1 000	25 × 40	75	135	83	4,6	1,6	-E8108-T
	2 200	30 × 40	44	77	54	6,7	2,3	-E8228-T
	4 700	35 × 50	27	49	36	9,9	3,4	-E8478-T
	10 000	40 × 70	19	32	27	15	4,4	-F8109-T
100	470	25 × 40	110	234	108	3,8	1,3	-E9477-T
	1 000	30 × 40	67	126	63	5,2	1,8	-E9108-T
	2 200	35 × 50	38	72	40	8,4	2,9	-E9228-T
	4 700	40 × 70	24	45	27	12	4,2	-E9478-T
<b>B43306-</b>								
250	100	25 × 40	540	1350	1100	1,7	0,60	-E2107-T
	220	30 × 40	250	630	500	2,9	1,0	-E2227-T
	470	30 × 50	120	300	240	3,8	1,3	-F2477-T
	1 000	40 × 70	54	160	120	8,1	2,8	-E2108-T
385	100	30 × 40	470	1180	900	2,0	0,70	-E107-T
	150	30 × 40	320	800	600	2,3	0,80	-E157-T
	220	30 × 40	220	550	410	3,2	1,1	-G227-T
	220	30 × 50	220	550	410	3,2	1,1	-E227-T
	330	35 × 45	140	370	280	4,1	1,4	-E337-T
	470	40 × 70	100	250	190	5,8	2,0	-E477-T
	1 000	40 × 100	47	120	90	9,6	3,3	-E108-T

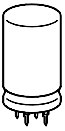
1) For instructions on how to determine ordering codes, refer to [page 161](#).



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	$I_{-R}$ 100 Hz 85 °C A	Ordering code 1)  Short code
<b>B43306-</b>								
400	100	30 × 35	890	1500	1250	1,8	0,61	-F107-T
	150	30 × 35	590	980	820	2,2	0,75	-F157-T
	220	30 × 45	400	670	560	2,8	0,99	-F227-T
	470	40 × 50	190	320	270	5,1	1,8	-F477-T
	1 000	40 × 100	88	150	130	9,7	3,4	-F108-T
450	68	30 × 35	1400	3300	2750	1,5	0,50	-A5686-T
	100	30 × 40	960	2200	1830	1,9	0,64	-B5107-T
	150	30 × 45	640	1500	1250	2,4	0,82	-A5157-T
	220	30 × 55	440	1000	830	3,1	1,1	-B5227-T
	470	40 × 55	210	470	390	6,3	1,8	-A5477-T
	1 000	40 × 105	96	220	180	9,9	3,4	-A5108-T
500	33	25 × 35	2900	6500	5400	0,90	0,31	-A6336-T
	47	30 × 35	2100	4700	3900	1,2	0,40	-A6476-T
	68	30 × 40	1400	3300	2700	1,5	0,51	-A6686-T
	100	30 × 55	960	2200	1800	2,0	0,69	-A6107-T
	150	35 × 50	640	1500	1300	2,6	0,90	-A6157-T
	220	40 × 50	440	1000	830	3,3	1,1	-A6227-T
	330	40 × 70	290	650	540	4,6	1,6	-A6337-T
	470	40 × 100	210	470	390	6,4	2,2	-A6477-T

1) To obtain the required ordering code, prefix the type number to the short code. E. g.: B43306-F107-T  
B41306-... ( $U_R = 16 \dots 100$  V-)  
B43306-... ( $U_R = 250 \dots 500$  V-)



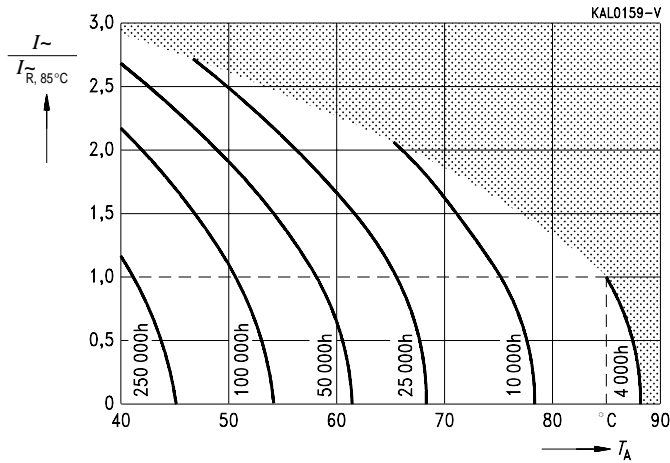
B 41 306  
B 43 306

Not for new design

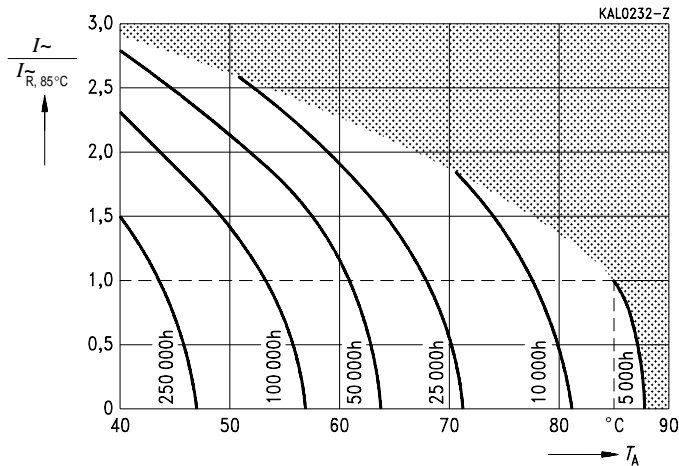
### Useful life

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

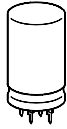
$U_R = 16 \dots 100 \text{ V-}$



$U_R = 250 \dots 500 \text{ V-}$

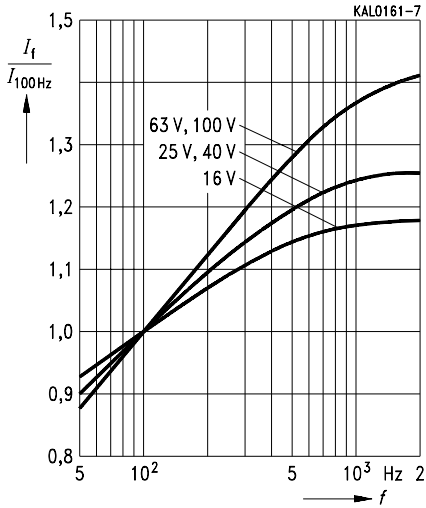


<sup>1)</sup> Refer to [page 34](#) for an explanation on how to interpret the useful life graphs.



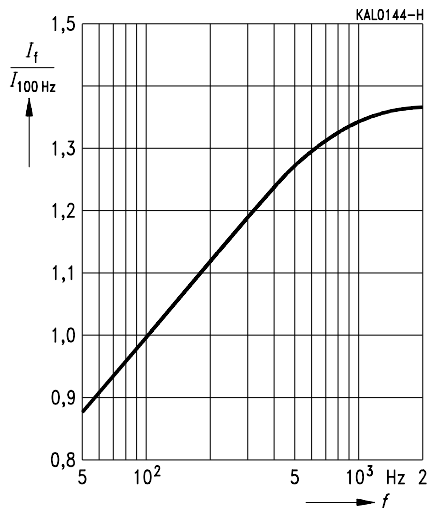
**Permissible ripple current  $I_r$**   
versus frequency  $f$

$U_R \leq 100 \text{ V-}$



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

$U_R \geq 250 \text{ V-}$

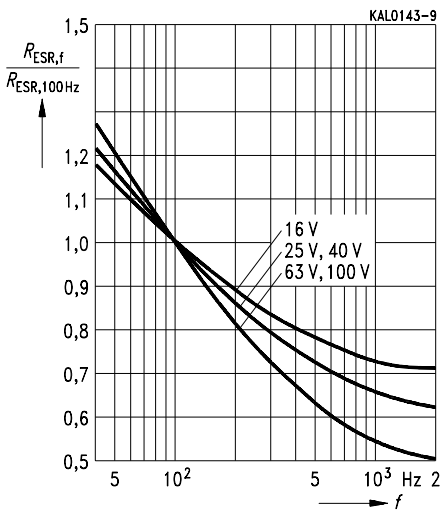


**Equivalent series resistance  $R_{ESR}$**

versus frequency  $f$

Typical behavior

$U_R \leq 100 \text{ V-}$

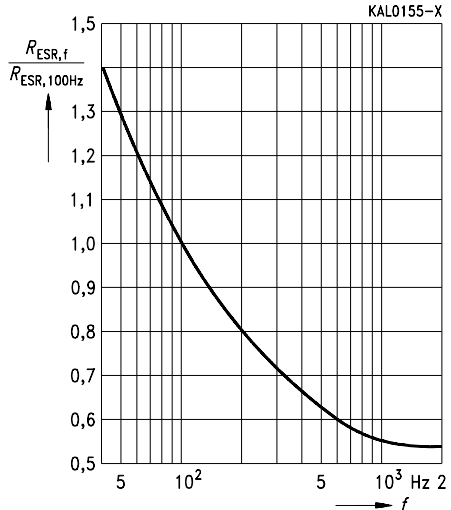


**Equivalent series resistance  $R_{ESR}$**

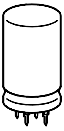
versus frequency  $f$

Typical behavior

$U_R \geq 250 \text{ V-}$







B 41 306  
B 43 306

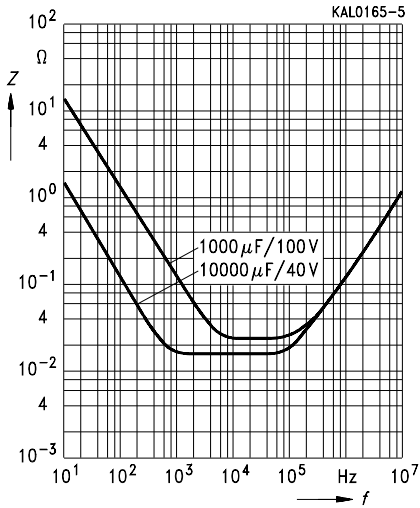
Not for new design

### Impedance $Z$

versus frequency  $f$

Typical behavior

$U_R \leq 100 \text{ V-}$



### Impedance $Z$

versus frequency  $f$

Typical behavior

$U_R \geq 250 \text{ V-}$

