

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

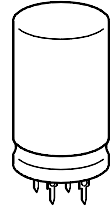
- Standard type with high ripple current capability
- Welded terminal connections ensure secure contacts and high reliability
- Low series resistance and low self-inductance
- Pinning ensures correct insertion

Applications

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

Specifications and characteristics in brief

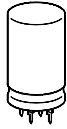
	B 41 306	B 43 306
Rated voltage U_R	16 ... 100 V–	250 ... 500 V–
Spitzenspannung U_S	$1,15 \cdot U_R$	$1,15 \cdot U_R$ (for $U_R \leq 250$ V–) $1,10 \cdot U_R$ (for $U_R \geq 385$ V–)
Rated capacitance C_R	470 ... 47 000 μ F	33 ... 1 000 μ F
Capacitance tolerance	– 10/+ 50 % \triangleq T	– 10/+ 50 % \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	≤ 1 % (during useful life)	≤ 1 % (during useful life)
Failure rate	≤ 40 fit ($\leq 40 \cdot 10^{-9}$ /h)	≤ 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)	$I_{lka} \leq 0,3 \mu A \cdot \left(\frac{C_R}{\mu F} \cdot \frac{U_R}{V} \right)^{0,7} + 4 \mu A$	



KAL0273–2

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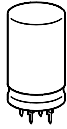


Specifications and characteristics in brief

	B 41 306	B 43 306
Self-inductance L_{ESL}	approx. 10 nH	
IEC climatic category	in accordance with IEC 68-1 ≤ 385 V-: 40/085/56 (-40 °C/+85 °C, 56 days damp heat test) ≥ 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 × 2 h for $d = 25$ mm: displacement amplitude 0,75 mm, acceleration max. 10 <i>g</i> for $d \geq 30$ mm: displacement amplitude 0,35 mm, acceleration max. 5 <i>g</i>	

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B 41 306
B 43 306



Overview of available types

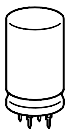
Type B 41 306

U_R (V-)	16	25	40	63	100
C_R (μ 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 (μ 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
B41306-								
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
B43306-								
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

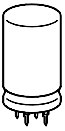
1) For instructions on how to determine ordering codes, refer to [page 161](#).



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
B43306-								
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-)



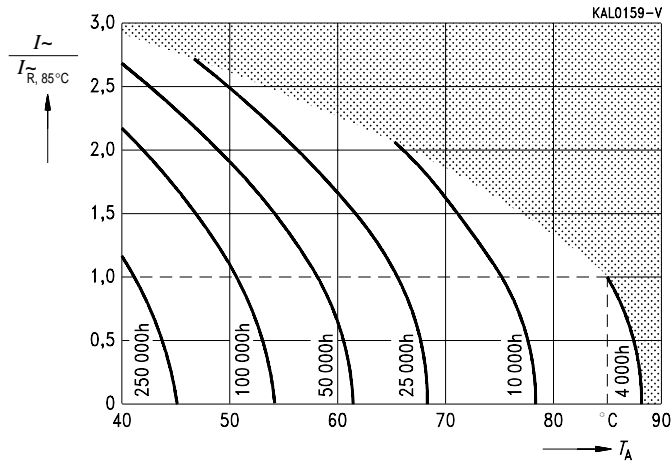
B 41 306
B 43 306

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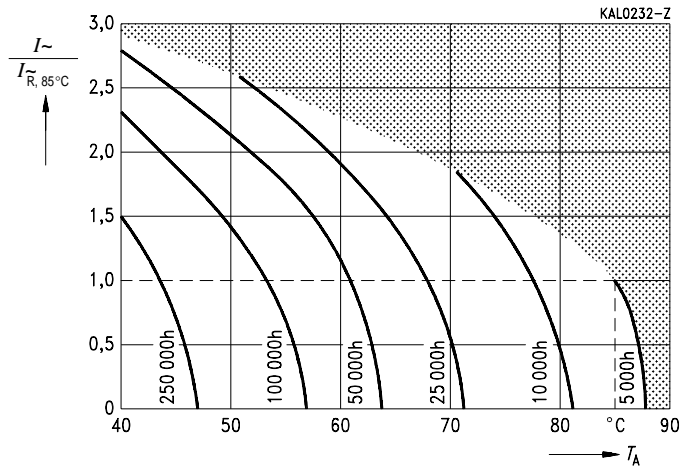
Useful life

versus ambient temperature T_A under ripple current operating conditions ¹⁾

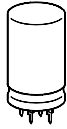
$U_R = 16 \dots 100 \text{ V-}$



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

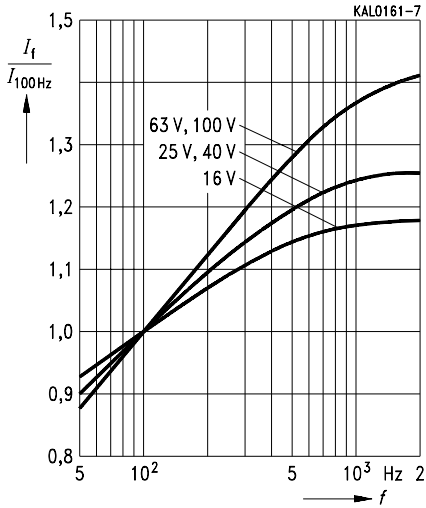


1) Refer to [page 34](#) for an explanation on how to interpret the useful life graphs.



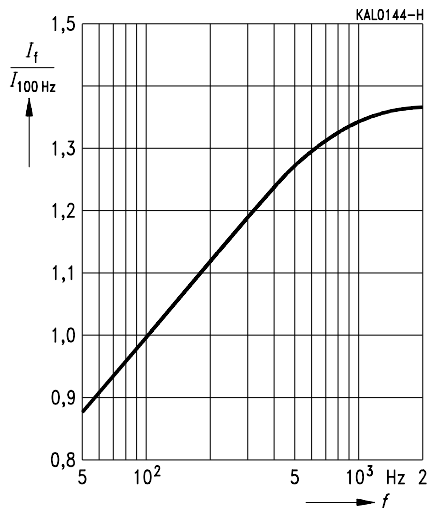
Permissible ripple current I_r
versus frequency f

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



Permissible ripple current I_r
versus frequency f

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

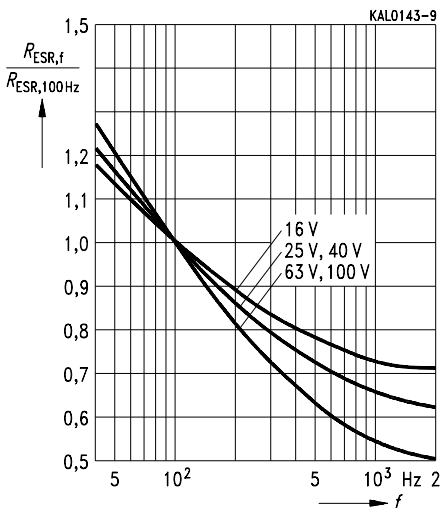


Equivalent series resistance R_{ESR}

versus frequency f

Typical behavior

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

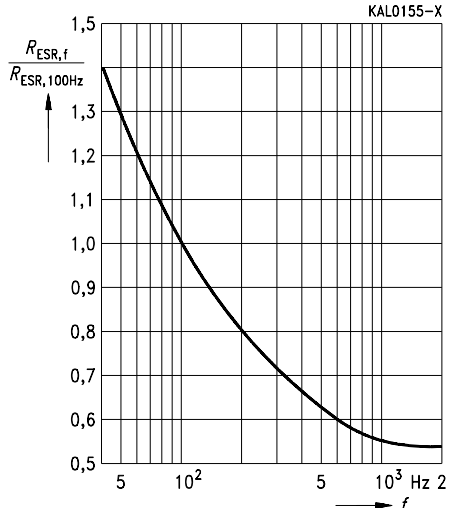


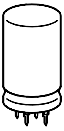
Equivalent series resistance R_{ESR}

versus frequency f

Typical behavior

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

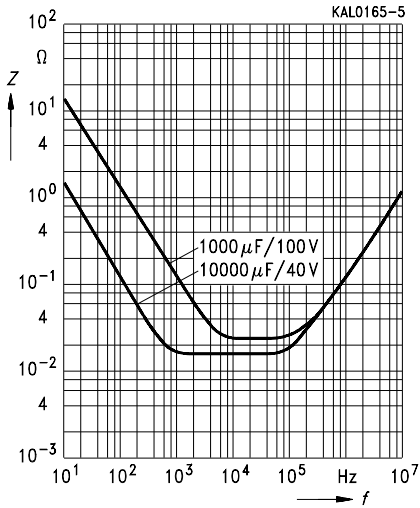




B 41 306
B 43 306

Not for new design

Impedance Z
versus frequency f
Typical behavior
 $U_R \leq 100 \text{ V-}$



Impedance Z
versus frequency f
Typical behavior
 $U_R \geq 250 \text{ V-}$

