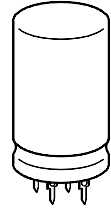


LL grade

Especially high volumetric efficiency

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



KAL0273-2

Features

- High reliability and high ripple current capability
- Extremely small dimensions, i.e. especially high volumetric efficiency
- Low equivalent series resistance and low self-inductance
- Pinning ensures correct insertion

Applications

- For switch-mode power supplies in industrial and consumer electronics
- For professional, long-life switch-mode power supplies

Specifications and characteristics in brief

	B 41 507		B 43 507
Rated voltage U_R	10 ... 100 V-		200 ... 450 V-
Surge voltage U_S	$1,15 \cdot U_R$		$1,15 \cdot U_R$ (for $U_R \leq 200$ V-) $1,10 \cdot U_R$ (for $U_R \geq 385$ V-)
Rated capacitance C_R	1 000 ... 100 000 μ F		68 ... 2 200 μ F
Capacitance tolerance	$\pm 20 \% \triangleq M$		$\pm 20 \% \triangleq M$
Useful life	≤ 63 V-	100 V-	$> 200\,000$ h ($1,7 \cdot I_{-R,85^\circ C}$) $> 8\,000$ h
40 °C, U_R	$> 200\,000$ h ($1,6 \cdot I_{-R,85^\circ C}$)	$> 200\,000$ h ($I_{-R,85^\circ C}$)	
85 °C, U_R ; I_{-R}	$> 10\,000$ h	$> 5\,000$ h	
Failure percentage	$\leq 1 \%$ (during useful life)		$\leq 1 \%$ (during useful life)
Failure rate	≤ 40 fit ($\leq 40 \cdot 10^{-9}$ /h)		≤ 40 fit ($\leq 40 \cdot 10^{-9}$ /h)
Voltage endurance test	3 000 h, 85 °C (at U_R)		3 000 h, 85 °C (at U_R)
Leakage current I_{lka} (5 min, 20 °C)	$I_{lka} \leq 0,3 \mu A \cdot \left(\frac{C_R}{\mu F} \cdot \frac{U_R}{V} \right)^{0,7} + 4 \mu A$		
Self-inductance L_{ESL}	approx. 10 nH		

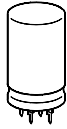


B 41 507
B 43 507

Not for new design

Specifications and characteristics in brief

	B 41 507	B 43 507
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 30 301-805	
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>	

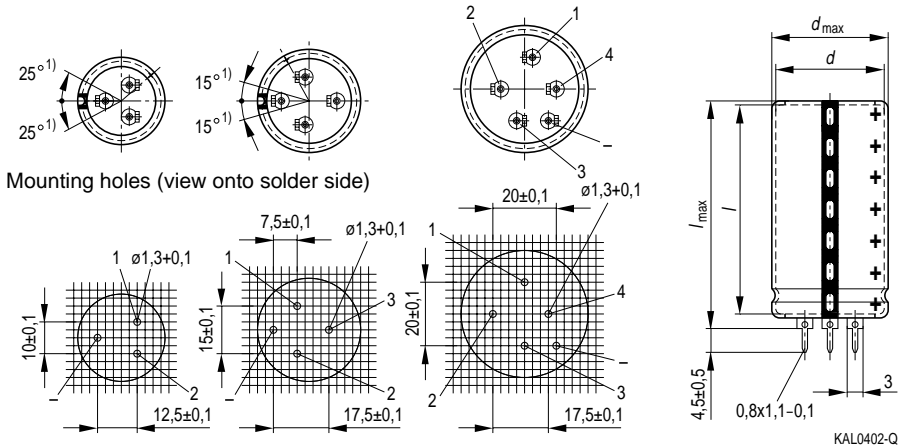


Dimensional drawing

$d = 25 \text{ mm}$

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

$d = 40 \text{ mm}$



Mounting holes (view onto solder side)

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

For $d = 35$ and 40 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 × 30	25,8 × 34	22	384
25 × 35	25,8 × 39	22	256
25 × 40	25,8 × 44	29	256
30 × 35	30,8 × 39	32	240
30 × 40	30,8 × 44	36	160
30 × 45	30,8 × 49	36	160
30 × 50	30,8 × 54	42	160
35 × 40	35,8 × 44	48	144
35 × 50	35,8 × 54	59	144
40 × 50	40,8 × 54	76	96
40 × 70	40,8 × 74	103	48
40 × 100	40,8 × 104	153	48
40 × 105	40,8 × 109	160	48

1) Permissible range of positions for pole identification marks



B 41 507
B 43 507

Not for new design

Overview of available types

Type B 41 507

U_R (V-)	10	16	25	40	63	100
C_R (μ F)	Case dimensions $d \times l$ (mm)					
1 000						25 × 40
2 200					25 × 35	30 × 40 35 × 40
4 700			25 × 30	25 × 40	30 × 45	40 × 50
10 000	25 × 30	25 × 40	30 × 40	30 × 50 35 × 40	35 × 50	40 × 100
22 000	30 × 40	30 × 50 35 × 40	35 × 50	40 × 50	40 × 100	
47 000	35 × 50	40 × 50	40 × 70	40 × 100		
100 000	40 × 70	40 × 100				

Type B 43 507

U_R (V-)	200	385	400	450
C_R (μ F)	Case dimensions $d \times l$ (mm)			
68				30 × 35
100		25 × 40	30 × 35	30 × 40
150		30 × 40	30 × 35	30 × 45
220	25 × 40	30 × 40 35 × 40	30 × 45	30 × 50
470	30 × 40 35 × 40	40 × 50	40 × 50	40 × 50
680	35 × 50	40 × 70	40 × 70	40 × 70
1 000	40 × 50	40 × 100	40 × 100	40 × 105
2 200	40 × 100			

The capacitance and voltage ratings listed above are available in different 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_R 100 Hz 85 °C A	I_{max} 100 Hz 85 °C A	Ordering code ¹⁾ Short code
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B41507-

10	10 000	25 × 30	46	98	81	6,5	2,5	4,0	-B3109-M
	22 000	30 × 40	30	51	46	9,4	3,6	5,8	-B3229-M
	47 000	35 × 50	20	35	32	13	5,1	8,2	-B3479-M
	100 000	40 × 70	17	34	21	17	6,4	10	-B3100-M
16	10 000	25 × 40	36	62	56	7,8	3,0	4,8	-B4109-M
	22 000	30 × 50	24	44	42	12	4,6	7,4	-J4229-M
	22 000	35 × 40	24	44	42	12	4,6	7,4	-B4229-M
	47 000	40 × 50	17	35	28	15	5,8	9,3	-B4479-M
	100 000	40 × 100	13	20	16	22	8,4	13	-B4100-M
25	4 700	25 × 30	46	87	84	6,5	2,5	4,0	-B5478-M
	10 000	30 × 40	28	48	46	9,6	3,7	5,9	-B5109-M
	22 000	35 × 50	20	33	32	13	5,1	8,2	-B5229-M
	47 000	40 × 70	14	24	23	18	7,0	11	-B5479-M
40	4 700	25 × 40	36	60	59	7,8	3,0	4,8	-B7478-M
	10 000	30 × 50	24	42	41	12	4,6	7,4	-J7109-M
	10 000	35 × 40	24	42	41	12	4,6	7,4	-B7109-M
	22 000	40 × 50	18	35	34	15	5,6	9,0	-B7229-M
	47 000	40 × 100	13	20	19	22	8,4	13	-B7479-M
63	2 200	25 × 35	45	87	84	6,5	2,5	4,0	-A8228-M
	4 700	30 × 45	30	50	49	9,4	3,6	5,8	-A8478-M
	10 000	35 × 50	20	36	33	13	5,1	8,2	-B8109-M
	22 000	40 × 100	13	20	18	22	8,4	13	-B8229-M
100	1 000	25 × 40	58	110	88	7,2	2,4	3,3	-B9108-M
	2 200	30 × 40	31	60	48	12	4,1	5,3	-J9228-M
	2 200	35 × 40	31	60	48	12	4,1	5,3	-B9228-M
	4 700	40 × 50	20	36	31	16	5,3	7,6	-B9478-M
	10 000	40 × 100	13	25	22	24	8,1	12	-B9109-M

1) For instructions on how to determine ordering codes, refer to [page 170](#).



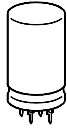
B 41 507
B 43 507

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	I_{-max} 100 Hz 85 °C A	Ordering code ¹⁾ Short code
B43507-									
200	220	25 × 40	300	660	530	2,7	0,90	1,2	-C227-M
	470	30 × 40	140	310	250	5,4	1,8	2,3	-K477-M
	470	35 × 40	140	310	250	5,4	1,8	2,3	-C477-M
	680	35 × 50	100	220	180	6,0	2,0	2,6	-C687-M
	1 000	40 × 50	66	150	120	7,5	2,5	3,3	-C108-M
	2 200	40 × 100	30	75	60	12	4,1	5,3	-C228-M
385	100	25 × 40	480	890	750	1,8	0,6	0,8	-F107-M
	150	30 × 40	320	600	500	2,4	0,8	1,0	-F157-M
	220	30 × 40	220	410	350	3,6	1,2	1,6	-G227-M
	220	35 × 40	220	410	350	3,6	1,2	1,6	-F227-M
	470	40 × 50	100	200	170	5,4	1,8	2,3	-F477-M
	680	40 × 70	77	140	120	6,9	2,3	3,0	-F687-M
1 000	40 × 100	55	100	88	9,0	3,0	3,9	-F108-M	
400	100	30 × 35	1000	1700	1420	1,7	0,60	0,60	-J107-M
	150	30 × 35	670	1100	920	2,1	0,72	0,72	-J157-M
	220	30 × 45	450	750	630	2,8	0,95	0,95	-J227-M
	470	40 × 50	210	350	290	4,9	1,7	1,7	-J477-M
	680	40 × 70	150	250	210	6,6	2,3	2,3	-J687-M
	1 000	40 × 100	100	170	140	9,3	3,2	3,2	-J108-M
450	68	30 × 35	1600	3700	3080	1,4	0,50	0,50	-A5686-M
	100	30 × 40	1100	2500	2080	1,8	0,61	0,61	-A5107-M
	150	30 × 45	720	1700	1420	2,3	0,78	0,78	-A5157-M
	220	30 × 50	490	1200	1000	2,9	0,99	0,99	-A5227-M
	470	40 × 50	230	530	440	4,9	1,7	1,7	-A5477-M
	680	40 × 70	160	370	310	6,6	2,3	2,3	-A5687-M
	1 000	40 × 105	110	250	210	9,5	3,3	3,3	-A5108-M

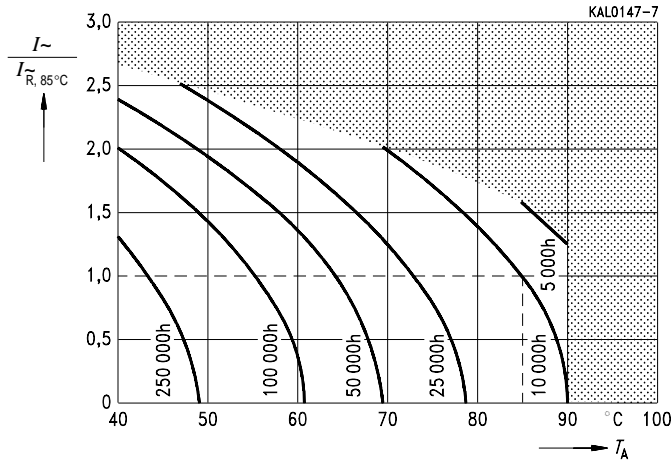
1) To obtain the required ordering code, prefix the type number to the short code. E. g.: B43507-C227-M
B41507-... ($U_R = 10 \dots 100$ V-)
B43507-... ($U_R = 200 \dots 450$ V-)



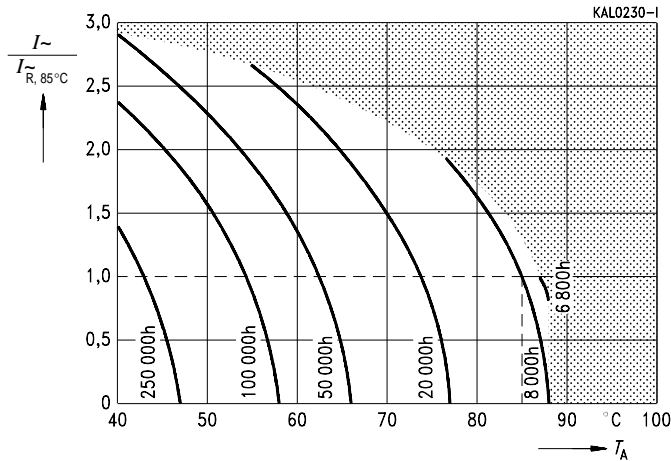
Useful life

versus ambient temperature T_A under ripple current operating conditions ¹⁾

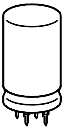
$U_R \leq 63 \text{ V}$ –



$U_R = 100 \text{ V} \dots 385 \text{ V}$ –



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



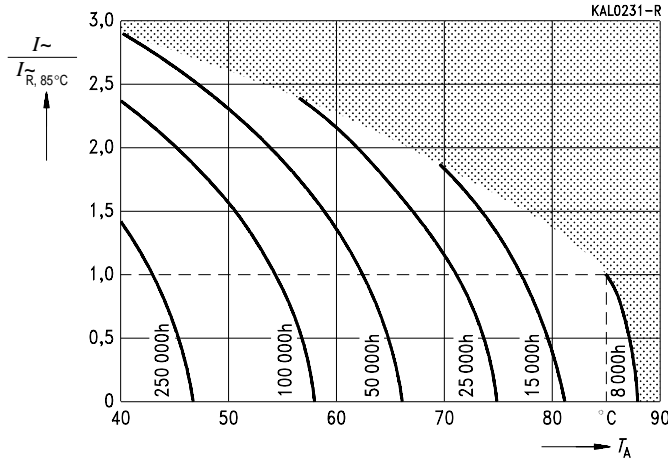
B 41 507
B 43 507

Not for new design

Useful life

versus ambient temperature T_A under ripple current operating conditions ¹⁾

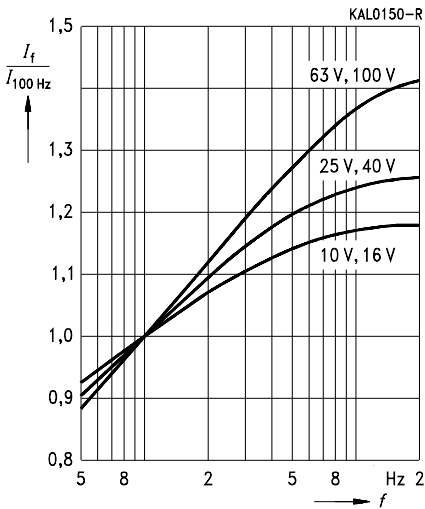
$U_R = 400$ and 450 V–



Permissible ripple current I_{\sim}

versus frequency f

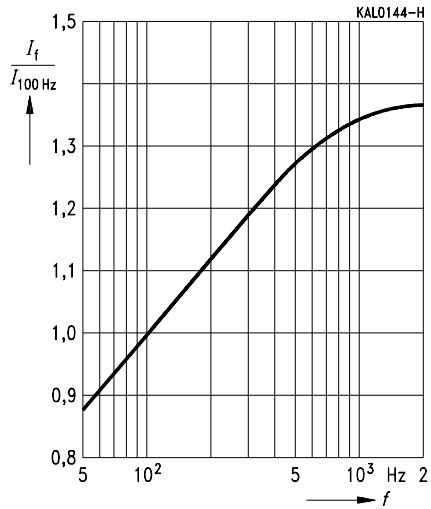
$U_R \leq 100$ V–



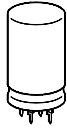
Permissible ripple current I_{\sim}

versus frequency f

$U_R \geq 200$ V–



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

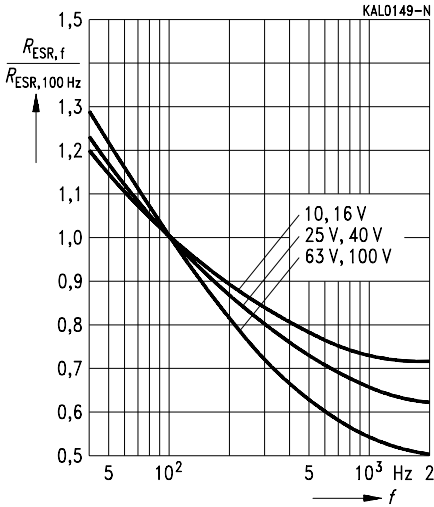


Equivalent series resistance R_{ESR}

versus frequency f

Typical behavior

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

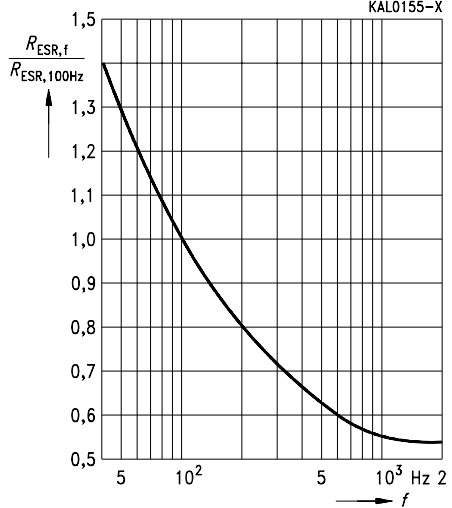


Equivalent series resistance R_{ESR}

versus frequency f

Typical behavior

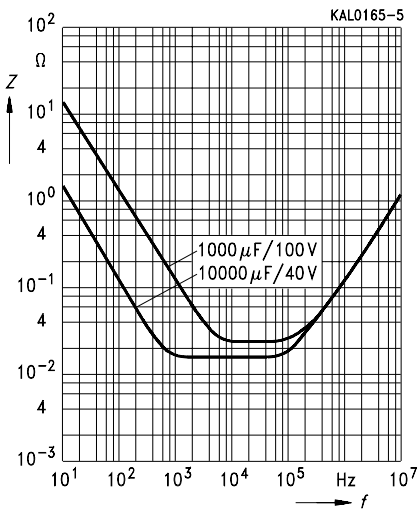
$U_R \geq 200 \text{ V-}$



Impedance Z versus frequency f

Typical behavior

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



Impedance Z versus frequency f

Typical behavior

$U_R \geq 200 \text{ V-}$

