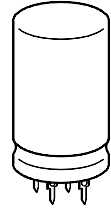


LL grade

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 ($1,7 \cdot I_{-R,85^\circ C}$) |
| 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 | | |

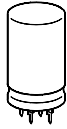


B 41 507
B 43 507

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 g for $d \geq 30$ mm: displacement amplitude 0,35 mm, acceleration max. 5 g | |

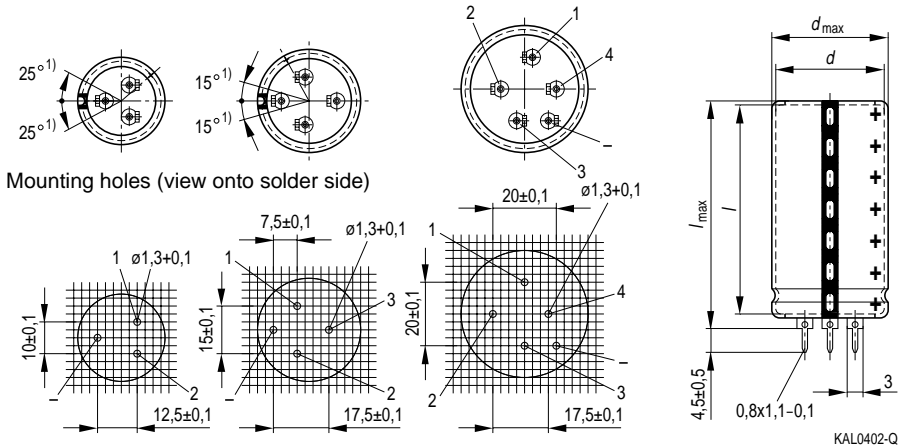


Dimensional drawing

$d = 25 \text{ mm}$

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

$d = 40 \text{ mm}$



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⁾ |
|-------|-------|---------------------------------------|---|---|------------------------------------|-----------------------------------|-------------------------------|-----------------------------------|-----------------------------|
| V- | μF | | | | | | | | Short code |

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](#).



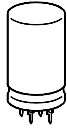
B 41 507
B 43 507

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 | |

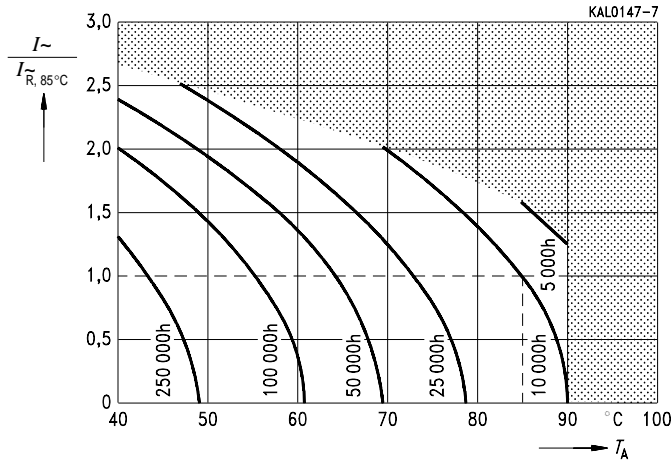
1) To obtain the required ordering code, prefix the type number to the short code. E. g.: B43507-C227-M
B41507-... ($U_R = 10 \dots 100$ V-)
B43507-... ($U_R = 200 \dots 450$ V-)



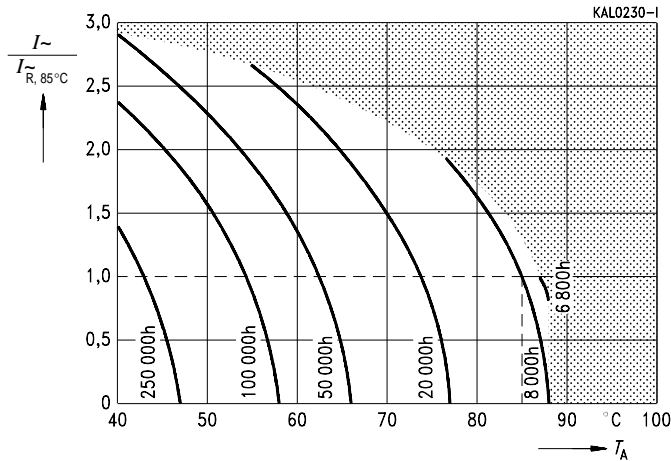
Useful life

versus ambient temperature T_A under ripple current operating conditions ¹⁾

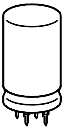
$U_R \leq 63 \text{ V}$ –



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



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



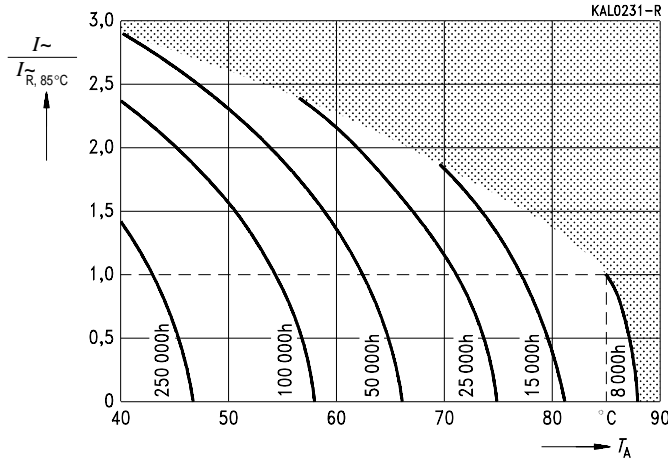
B 41 507
B 43 507

Not for new design

Useful life

versus ambient temperature T_A under ripple current operating conditions ¹⁾

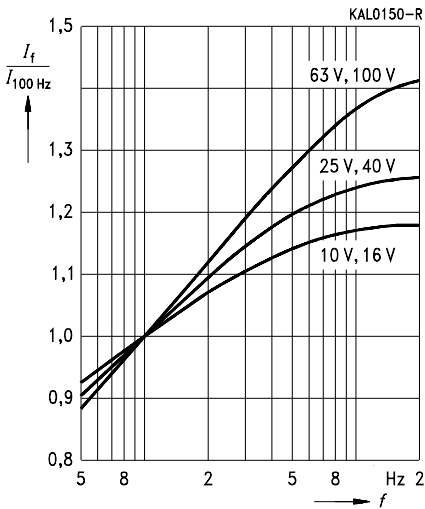
$U_R = 400$ and 450 V–



Permissible ripple current I_{\sim}

versus frequency f

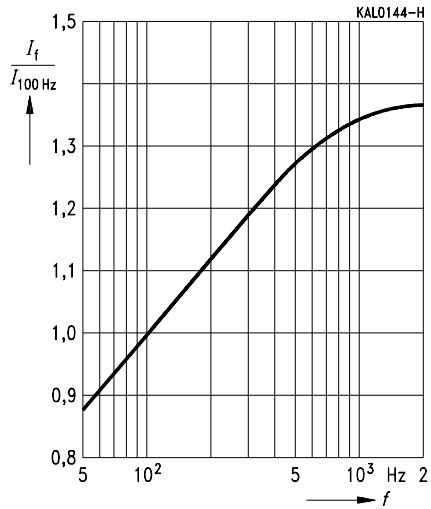
$U_R \leq 100$ V–



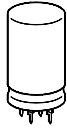
Permissible ripple current I_{\sim}

versus frequency f

$U_R \geq 200$ V–



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

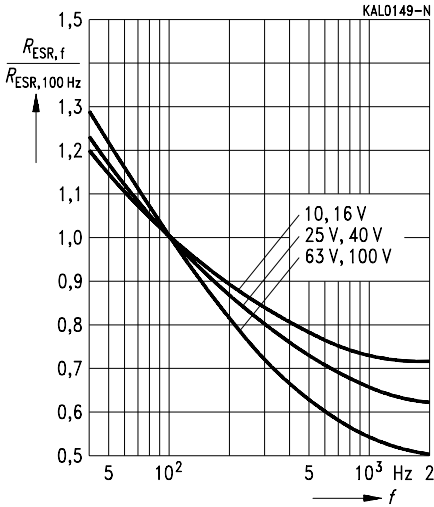


Equivalent series resistance R_{ESR}

versus frequency f

Typical behavior

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

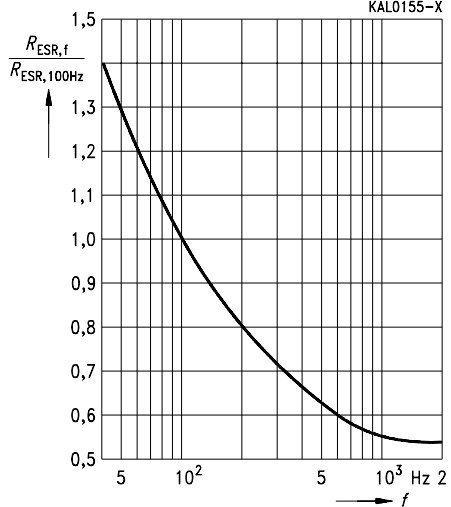


Equivalent series resistance R_{ESR}

versus frequency f

Typical behavior

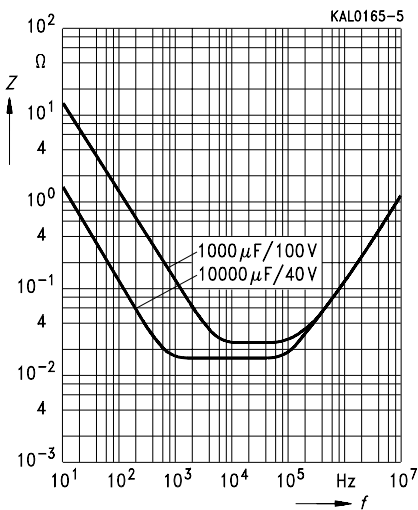
$U_R \geq 200 \text{ V-}$



Impedance Z versus frequency f

Typical behavior

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



Impedance Z versus frequency f

Typical behavior

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

