

GP grade

Standard type with high ripple current capability
Rated voltage up to 500 V–

Construction

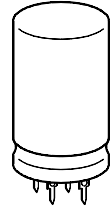
- Charge-discharge proof, polar
- Aluminum case, fully insulated
- Overload protection by preset break point in case
- Solder pin mounting on printed circuit boards, pins fit standardized spacings on PCB
- Negative pole brought out to solder pin, but not insulated from case

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



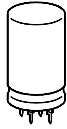
KAL0273-2

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 ($1,5 \cdot I_{-R,85^\circ\text{C}}$) | > 200 000 h ($1,7 \cdot I_{-R,85^\circ\text{C}}$) |
| 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) | $I_{lka} \leq 0,3 \mu\text{A} \cdot \left(\frac{C_R}{\mu\text{F}} \cdot \frac{U_R}{\text{V}}\right)^{0,7} + 4 \mu\text{A}$ | |

Not for new design

B 41 306
B 43 306

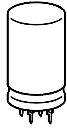


Specifications and characteristics in brief

| | B 41 306 | B 43 306 |
|---------------------------|--|----------|
| Self-inductance L_{ESL} | approx. 10 nH | |
| IEC climatic category | in accordance with IEC 68-1 ≤ 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 g for $d \geq 30$ mm: displacement amplitude 0,35 mm, acceleration max. 5 g | |

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 (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 |

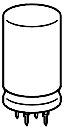
1) For instructions on how to determine ordering codes, refer to [page 161](#).



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-)



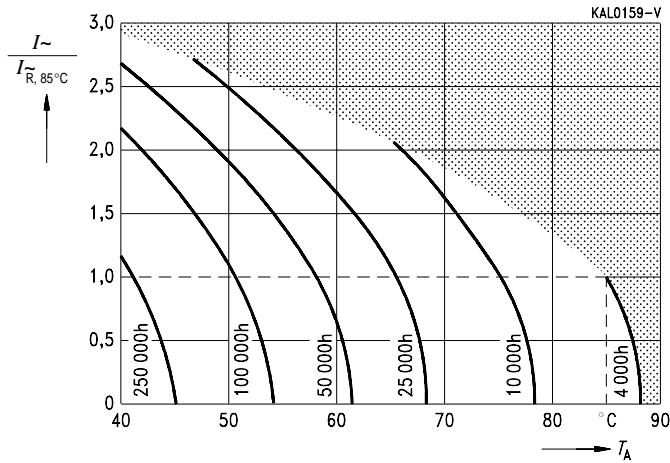
B 41 306
B 43 306

Not for new design

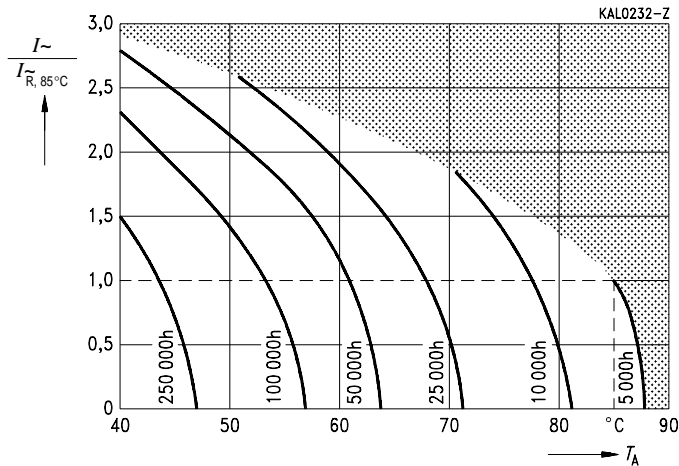
Useful life

versus ambient temperature T_A under ripple current operating conditions ¹⁾

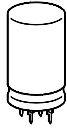
$U_R = 16 \dots 100 \text{ V-}$



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

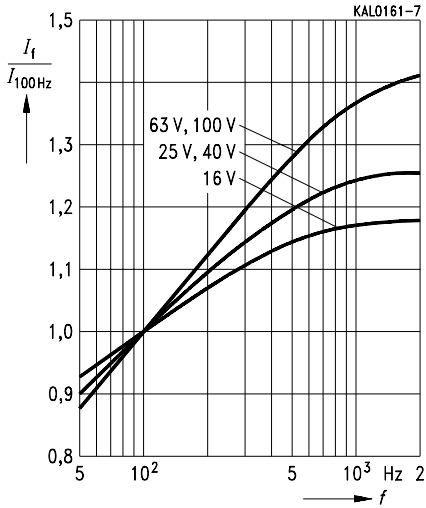


1) Refer to [page 34](#) for an explanation on how to interpret the useful life graphs.



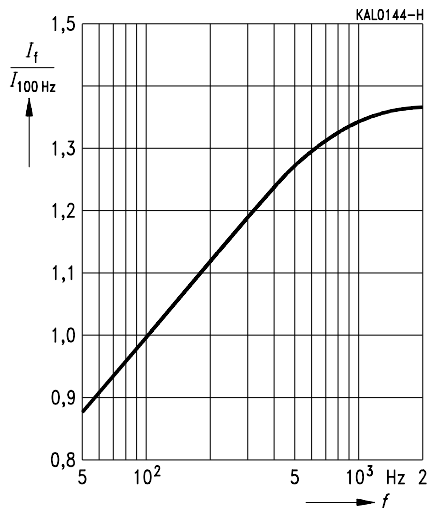
Permissible ripple current I_r
versus frequency f

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



Permissible ripple current I_r
versus frequency f

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

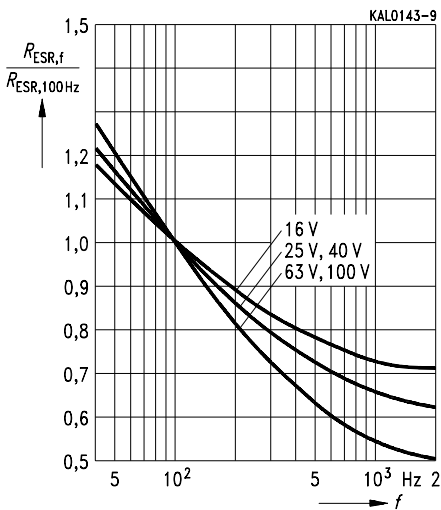


Equivalent series resistance R_{ESR}

versus frequency f

Typical behavior

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

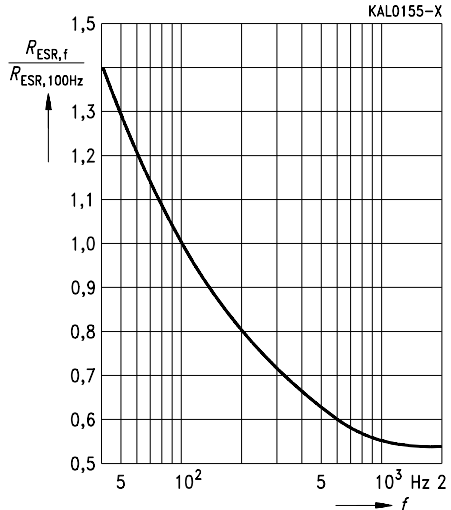


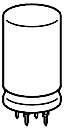
Equivalent series resistance R_{ESR}

versus frequency f

Typical behavior

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

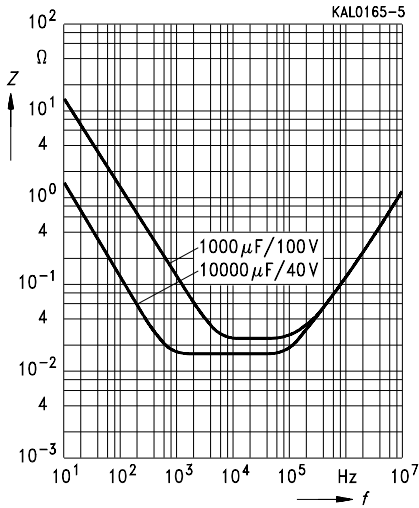




B 41 306
B 43 306

Not for new design

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



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

