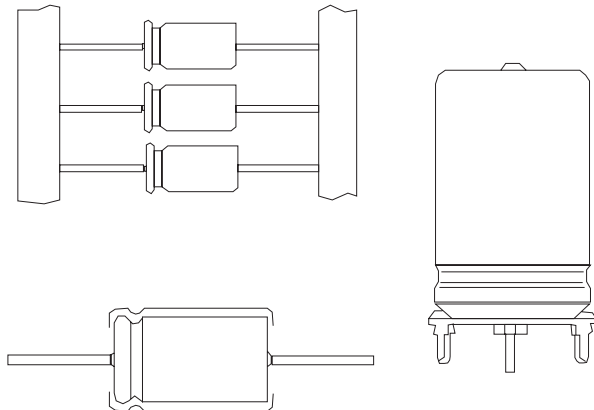


# Aluminum Electrolytic Capacitors Axial Standard Capacitor Style EL/EB/EG Solder Ring Termination as EG 03



## FEATURES

- Polarized aluminum electrolytic capacitor
- Standard dimensions
- Long lifetime
- Charge/discharge proof
- High ripple current capability
- Solder ring available

## APPLICATIONS

- General purpose, industrial and automotive electronics, audio/video systems
- Coupling, smoothing, filtering, buffering and timing
- Portable and mobile units
- Vibration and shock resistant

| MAIN SPECIFICATIONS                             |                         |                                                                                         |                  |                      |                       |                        |                       |
|-------------------------------------------------|-------------------------|-----------------------------------------------------------------------------------------|------------------|----------------------|-----------------------|------------------------|-----------------------|
| ITEM                                            | UNIT                    | LOW VOLTAGE                                                                             |                  |                      |                       | HIGH VOLTAGE           |                       |
| Nominal Case Size (D x L)                       | mm                      | 3.3 x 8<br>to 3.3 x 11                                                                  | 4.5 x 11         | 6 x 10<br>to 10 x 25 | 12 x 25<br>to 30 x 50 | 6.5 x 18<br>to 10 x 25 | 12 x 25<br>to 30 x 50 |
| Rated Capacitance Range                         | μF                      | 0.47 - 10                                                                               | 0.47 - 47        | 4.7 - 1000           | 100 - 33000           | 1 - 22                 | 10 - 680              |
| Capacitance Tolerance                           | %                       | - 10 / +50                                                                              |                  |                      |                       |                        |                       |
| Rated Voltage Range                             | V                       | 6.3 to 63                                                                               | 10 to 100        | 6.3 to 100           |                       | 160 to 385             | 160 to 500            |
| Category Temperature Range                      | °C                      | - 40 to + 85                                                                            |                  |                      | - 40 to + 105         | -40 to +85             |                       |
| Endurance Test at Upper Category Temp.          | h                       | 1000                                                                                    |                  |                      |                       | 2000                   |                       |
| Useful Life at 105°C and I <sub>R</sub> applied | h                       |                                                                                         | (750)            | (1000)               | 2000                  |                        |                       |
| Useful Life at 85°C and I <sub>R</sub> applied  | h                       | 1500                                                                                    | 3000             |                      | 7000                  | 5000                   |                       |
| Useful Life at 40°C and I <sub>R</sub> applied  | h                       | 40000                                                                                   | 85000            |                      | 200000                | 130000                 |                       |
| Shelf Life (0 V, Upper Category Temp.)          | h                       | 500                                                                                     |                  |                      | 100                   | 500                    | 100                   |
| Failure Rate (0,8 U <sub>R</sub> , 40°C)        | 10 <sup>-9</sup> /h     | ≤ 550                                                                                   | ≤ 105            |                      | ≤ 45                  | ≤ 70                   |                       |
| Based on Sectional Specifications               |                         | IEC 384-4, CECC 30300                                                                   |                  |                      |                       |                        |                       |
| Detail Specifications                           |                         | similar to CECC 30301-044, similar to DIN 45910 Part 126,<br>without quality assessment |                  |                      |                       |                        |                       |
| Climatic Category                               | IEC 60 068<br>DIN 40040 |                                                                                         | 40/085/56<br>GPF |                      | 40/105/56<br>GMF      | 40/085/56<br>GPF       |                       |

**VALUES AND DIMENSIONS  $U_R \leq 100V$** 

Nominal size (D x L) in mm

| CAP<br>[ $\mu F$ ] | RATED VOLTAGE $U_R$ [V] |          |                     |                    |                     |                    |                      |          |
|--------------------|-------------------------|----------|---------------------|--------------------|---------------------|--------------------|----------------------|----------|
|                    | 6.3                     | 10       | 16                  | 25                 | 40                  | 50                 | 63                   | 100      |
| 0.47               |                         |          |                     |                    |                     |                    | 3.3 x 8<br>3.3 x 11  | 4.5 x 11 |
| 1                  |                         |          |                     |                    | 3.3 x 11            |                    | 3.3 x 8<br>4.5 x 11  | 4.5 x 11 |
| 2.2                |                         |          |                     |                    | 3.3 x 8<br>3.3 x 11 |                    | 3.3 x 11<br>4.5 x 11 | 4.5 x 11 |
| 4.7                |                         |          | 3.3 x 8<br>3.3 x 11 |                    | 3.3 x 11            |                    | 4.5 x 11             | 6 x 10   |
| 10                 | 3.3 x 8<br>3.3 x 11     |          | 3.3 x 11            | 4.5 x 11           | 4.5 x 11            |                    | 6 x 10               | 6.5 x 18 |
| 22                 |                         | 4.5 x 11 |                     | 4.5 x 11           | 6 x 10              |                    | 6.5 x 18             | 8 x 18   |
| 33                 |                         |          |                     |                    |                     |                    |                      |          |
| 47                 |                         | 4.5 x 11 |                     | 6 x 10             | 6.5 x 18            |                    | 8 x 18               | 10 x 18  |
| 68                 |                         |          |                     |                    |                     |                    |                      |          |
| 100                |                         | 6 x 10   |                     | 6.5 x 18           | 8 x 18              | 10 x 18            | 10 x 25              | 12 x 25  |
| 150                |                         |          |                     |                    |                     |                    |                      | 12 x 25  |
| 220                |                         | 6.5 x 18 | 8 x 18              | 10 x 18            | 10 x 18             | 12 x 25            | 12 x 25              | 16 x 30  |
| 330                |                         |          |                     |                    |                     | 12 x 25            | 12 x 30              | 16 x 40  |
| 470                | 8 x 18                  | 10 x 18  | 10 x 18             | 10 x 25            | 12 x 25             | 12 x 30            | 16 x 30              | 18 x 40  |
| 680                |                         |          |                     | 12 x 25            | 12 x 30             | 16 x 30            | 16 x 40              | 21 x 40  |
| 1000               | 10 x 25                 | 10 x 25  | 10 x 25             | 12 x 30            | 16 x 30             | 16 x 40            | 18 x 40              | 25 x 40  |
| 1500               | 12 x 25                 | 12 x 25  | 10 x 30             | 16 x 30            | 16 x 40             | 18 x 40            | 21 x 40              | 25 x 50  |
| 2200               | 12 x 25                 | 12 x 30  | 16 x 30             | 16 x 40            | 18 x 40             | 21 x 40            | 25 x 40              | 30 x 50  |
| 3300               | 12 x 30                 | 16 x 40  | 16 x 40             | 18 x 40            | 21 x 40             | 25 x 40            | 25 x 50<br>30 x 45   |          |
| 4700               | 16 x 40                 | 16 x 40  | 18 x 40             | 21 x 40            | 25 x 40             | 25 x 50<br>30 x 45 | 30 x 50              |          |
| 6800               | 18 x 40                 | 21 x 40  | 21 x 40             | 25 x 40            | 25 x 50<br>30 x 40  | 30 x 50            |                      |          |
| 10000              | 21 x 40                 | 25 x 40  | 25 x 40             | 25 x 50<br>30 x 40 | 30 x 50             |                    | EG                   |          |
| 15000              | 25 x 40                 | 25 x 45  | 30 x 40             | 30 x 50            |                     |                    |                      |          |
| 22000              | 25 x 50                 | 30 x 45  | 30 x 50             |                    |                     |                    |                      |          |
| 33000              | 30 x 50                 |          |                     |                    |                     |                    |                      |          |

**VALUES AND DIMENSIONS  $U_R > 100V$** 

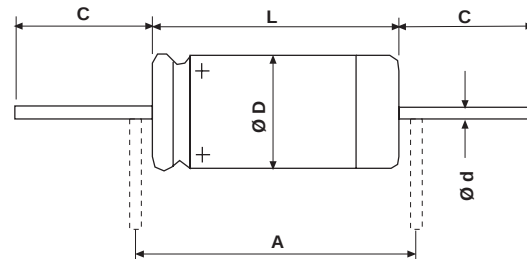
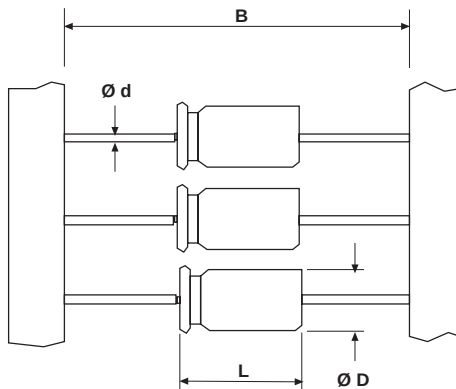
Nominal size (D x L) in mm

| CAP<br>[ $\mu F$ ] | RATED VOLTAGE $U_R$ [V] |          |         |          |         |         |         |
|--------------------|-------------------------|----------|---------|----------|---------|---------|---------|
|                    | 160                     | 250      | 350     | 385      | 400     | 450     | 500     |
| 1                  |                         |          |         | 6.5 x 18 |         |         |         |
| 2.2                |                         | 6.5 x 18 |         | 8 x 18   |         | EB      |         |
| 4.7                | 6.5 x 18                | 8 x 18   | 10 x 18 | 10 x 25  |         |         |         |
| 10                 | 8 x 18                  | 10 x 25  | 12 x 25 | 12 x 25  |         | 12 x 25 | 12 x 30 |
| 15                 |                         |          | 12 x 25 | 12 x 25  | 12 x 25 | 12 x 30 | 16 x 30 |
| 22                 | 10 x 25                 | 12 x 25  | 12 x 30 | 12 x 30  | 16 x 30 | 16 x 30 | 16 x 40 |
| 33                 | 12 x 25                 | 12 x 25  | 16 x 30 | 16 x 30  | 16 x 30 | 18 x 30 | 18 x 40 |
| 47                 | 12 x 25                 | 16 x 30  | 18 x 30 | 16 x 40  | 16 x 40 | 18 x 40 | 21 x 40 |
| 68                 | 12 x 30                 | 18 x 30  | 18 x 40 | 18 x 40  | 18 x 40 | 21 x 40 | 25 x 40 |
| 100                | 18 x 30                 | 18 x 40  | 21 x 40 | 21 x 40  | 21 x 40 | 25 x 40 | 25 x 45 |
| 150                | 18 x 40                 | 21 x 40  | 25 x 40 | 25 x 45  | 25 x 40 | 30 x 40 | 30 x 45 |
| 220                | 21 x 40                 | 25 x 40  | 30 x 40 | 30 x 40  | 30 x 40 | 30 x 50 |         |
| 330                | 25 x 40                 | 25 x 50  | 30 x 50 |          |         |         |         |
| 470                | 25 x 45                 | 30 x 45  |         |          |         | EG      |         |
| 680                | 30 x 45                 |          |         |          |         |         |         |

| AXIAL STYLE: DIMENSIONS, WEIGHT, PACKAGING QUANTITIES AND ORDERING CODE |   |    |           |                  |                   |                 |                 |            |                        |                                                |      |               |      |            |      |
|-------------------------------------------------------------------------|---|----|-----------|------------------|-------------------|-----------------|-----------------|------------|------------------------|------------------------------------------------|------|---------------|------|------------|------|
| NOMINAL CASE SIZE<br>Ø D   x   L<br>mm   x   mm                         |   |    | Ø d<br>mm | C<br>mm          | Ø D<br>MAX.<br>mm | L<br>MAX.<br>mm | A<br>MIN.<br>mm | B<br>mm    | WEIGHT<br>APPROX.<br>g | PACKAGING, ENDING OF ORDERING CODE, QUANTITIES |      |               |      |            |      |
|                                                                         |   |    |           |                  |                   |                 |                 |            |                        | BULK IN BOX                                    |      | TAPED ON REEL |      | TAPED AMMO |      |
|                                                                         |   |    |           |                  |                   |                 |                 |            |                        | code                                           | pcs. | code          | pcs. | code       | pcs. |
| 3.3                                                                     | x | 8  | 0.6       |                  | 3.5               | 9.0             | 12.5            | 63.5 ± 1.5 | 0.3                    |                                                |      | ..A0V         | 4000 | ..B0V      | 1000 |
| 3.3                                                                     | x | 11 | 0.6       |                  | 3.5               | 12.0            | 15              | 63.5 ± 1.5 | 0.35                   |                                                |      | ..A0V         | 3000 | ..B0V      | 1000 |
| 4.5                                                                     | x | 11 | 0.6       |                  | 5.0               | 11.0            | 15              | 63.5 ± 1.5 | 0.5                    |                                                |      | ..A0V         | 3000 | ..B0V      | 1000 |
| 6                                                                       | x | 10 | 0.6       |                  | 6.3               | 10.5            | 15              | 63.5 ± 1.5 | 0.7                    |                                                |      | ..A0V         | 1000 | ..B0V      | 1000 |
| 6.5                                                                     | x | 18 | 0.8       |                  | 6.9               | 18.5            | 25              | 73.0 ± 1.6 | 1.3                    |                                                |      | ..A0V         | 1000 | ..B0V      | 1000 |
| 8                                                                       | x | 18 | 0.8       |                  | 8.5               | 18.5            | 25              | 73.0 ± 1.6 | 1.7                    |                                                |      | ..A0V         | 500  | ..B0V      | 500  |
| 10                                                                      | x | 18 | 0.8       |                  | 10.5              | 18.5            | 25              | 73.0 ± 1.6 | 2.5                    |                                                |      | ..A0V         | 500  | ..B0V      | 500  |
| 10                                                                      | x | 25 | 0.8       |                  | 10.5              | 25.0            | 30              | 73.0 ± 1.6 | 3.3                    |                                                |      | ..A0V         | 500  | ..B0V      | 500  |
| 12                                                                      | x | 25 | 0.8       | 40 <sup>-5</sup> | 12.5              | 26.5            | 30              | 73.0 ± 1.6 | 4                      | ..00B                                          | 800  | ..A0B         | 450  | ..B0B      | 700  |
| 12                                                                      | x | 30 | 0.8       | 40 <sup>-5</sup> | 12.5              | 31.5            | 35              | 73.0 ± 1.6 | 6                      | ..00B                                          | 800  | ..A0B         | 450  | ..B0B      | 700  |
| 16                                                                      | x | 30 | 0.8       | 40 <sup>-5</sup> | 16.5              | 30.0            | 35              | 73.0 ± 1.6 | 8                      | ..00B                                          | 150  | ..A0B         | 250  | ..B0B      | 400  |
| 16                                                                      | x | 40 | 0.8       | 40 <sup>-5</sup> | 16.5              | 40.0            | 45              |            | 11                     | ..00B                                          | 150  | n.a.          |      | n.a.       |      |
| 18                                                                      | x | 30 | 0.8       | 40 <sup>-5</sup> | 18.5              | 30.5            | 35              |            | 10                     | ..00B                                          | 150  | n.a.          |      | n.a.       |      |
| 18                                                                      | x | 40 | 0.8       | 40 <sup>-5</sup> | 18.5              | 40.5            | 45              |            | 15                     | ..00B                                          | 100  | n.a.          |      | n.a.       |      |
| 21                                                                      | x | 40 | 0.8       | 40 <sup>-5</sup> | 21.5              | 41.0            | 45              |            | 21                     | ..00B                                          | 100  | n.a.          |      | n.a.       |      |
| 25                                                                      | x | 40 | 0.8       | 40 <sup>-5</sup> | 25.5              | 41.0            | 45              |            | 31                     | ..00B                                          | 60   | n.a.          |      | n.a.       |      |
| 25                                                                      | x | 45 | 0.8       | 40 <sup>-5</sup> | 25.5              | 47.0            | 51              |            | 38                     | ..00B                                          | 60   | n.a.          |      | n.a.       |      |
| 25                                                                      | x | 50 | 0.8       | 40 <sup>-5</sup> | 25.5              | 51.0            | 55              |            | 44                     | ..00B                                          | 50   | n.a.          |      | n.a.       |      |
| 30                                                                      | x | 40 | 1.0       | 40 <sup>-5</sup> | 30.5              | 41.0            | 45              |            | 46                     | ..00B                                          | 40   | n.a.          |      | n.a.       |      |
| 30                                                                      | x | 45 | 1.0       | 40 <sup>-5</sup> | 30.5              | 47.0            | 51              |            | 54                     | ..00B                                          | 30   | n.a.          |      | n.a.       |      |
| 30                                                                      | x | 50 | 1.0       | 40 <sup>-5</sup> | 30.5              | 51.0            | 55              |            | 64                     | ..00B                                          | 30   | n.a.          |      | n.a.       |      |

Axial style capacitors are insulated.

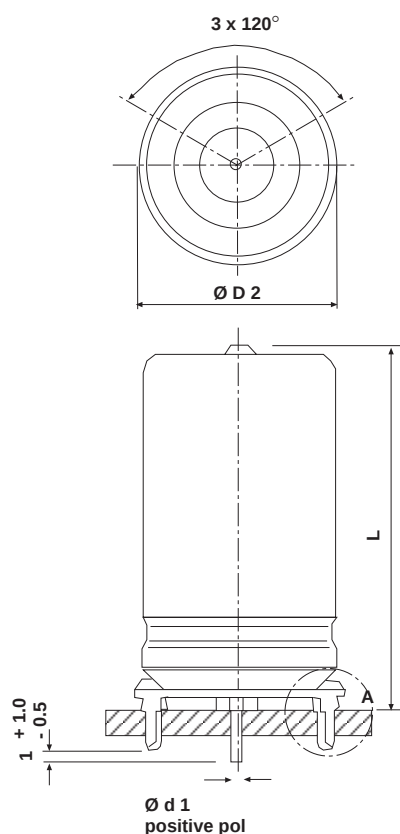
n.a. = not available



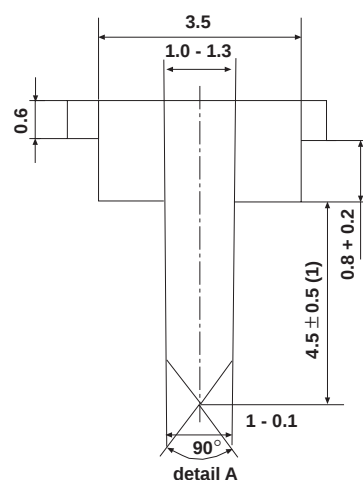
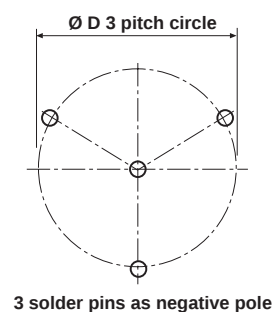
**MOUNTING RING STYLE: DIMENSIONS, WEIGHT, PACKAGING QUANTITIES AND ORDERING CODE**

| NOMINAL CASE SIZE |   |    | Ø D1 | Ø D2 | Ø D3  | L    | WEIGHT  | STARTING OF   | PACKAGING |
|-------------------|---|----|------|------|-------|------|---------|---------------|-----------|
| Ø D               | x | L  |      | MAX. | ± 0.2 | MAX. | APPROX. | ORDERING CODE | QUANTITY  |
| mm                | x | mm | mm   | mm   | mm    | mm   | g       |               | pcs.      |
| 16                | x | 30 | 1.0  | 17.2 | 16.5  | 32   | 12      | EG 03..       | 504       |
| 16                | x | 40 | 1.0  | 17.2 | 16.5  | 42   | 13      | EG 03..       | 336       |
| 18                | x | 30 | 1.0  | 19.2 | 18.5  | 32   | 13      | EG 03..       | 429       |
| 18                | x | 40 | 1.0  | 19.2 | 18.5  | 42   | 19      | EG 03..       | 286       |
| 21                | x | 40 | 1.0  | 22.2 | 21.5  | 42   | 24      | EG 03..       | 220       |
| 25                | x | 40 | 1.0  | 26.2 | 25.5  | 42   | 28      | EG 03..       | 144       |
| 25                | x | 45 | 1.0  | 26.2 | 25.5  | 48   | 33      | EG 03..       | 144       |
| 25                | x | 50 | 1.0  | 26.2 | 25.5  | 53   | 40      | EG 03..       | 144       |
| 30                | x | 40 | 1.0  | 31.2 | 30.5  | 42   | 42      | EG 03..       | 112       |
| 30                | x | 45 | 1.0  | 31.2 | 30.5  | 48   | 46      | EG 03..       | 112       |
| 30                | x | 50 | 1.0  | 31.2 | 30.5  | 53   | 50      | EG 03..       | 112       |

Packaging in styrofoam pallets

**EG 03..**

Cases of mounting ring style capacitors are not insulated.  
Insulation on request.



specification of bore fit according  
to DIN 40810 (Ø 1.3 + 0.1)

(1) pin length for mounting rings  
Ø 21, 25 and 30 is 3.1 ± 0.2

**ORDERING INFORMATION AND EXAMPLE**

The following table gives the ordering number for standard version = axial leads, in bulk.

\*)The 3<sup>rd</sup> place of the ordering number is always a blank sign which is essential for ordering code

The 5<sup>th</sup> place of ordering code refers to termination style:

EG 00.. 0 = axial leads

EG 03.. 3 = mounting ring with solder pins

The 12<sup>th</sup> place of ordering code refers to packaging for axial lead capacitors:

EB 00HD415C... = EB 1500 $\mu$ F 10V 12 x 25

EB 00HD415C00B 0 = in bulk (box)

EB 00HD415CA0B A = taped on reel

EB 00HD415CB0B B = taped ammo

Please see tables "Axial Style" and "Mounting Ring Style" for available versions.

**MEASURING CONDITIONS AND FORMULA LEGEND**

$T_a = 20^\circ\text{C}$ ,  $p = 86\text{-}106\text{ kPa}$ ,  $RH = 45\text{-}75\%$

$T_a$  Ambient temperature

$T_{UC}$  Upper category temperature

RH Relative humidity

P Ambient pressure

$C_R$  Rated capacitance at 100Hz

$U_R$  Rated voltage

$\tan \delta$  Dissipation factor at 100Hz

$R_{ESR}$  Equivalent series resistance at 100Hz

Z Impedance at 10kHz

$I_R$  Rated alternating current (rms), 100Hz, upper category temperature

**ELECTRICAL CHARACTERISTICS AND ORDERING CODE**

| CAP<br>100 Hz<br>$C_R$<br>[ $\mu$ F] | RATED<br>VOLTAGE<br>$U_R$<br>[V] | DIMENSION<br>D x L<br>[mm] | TAN $\delta$<br>100Hz<br>MAX. | $R_{ESR}$<br>100Hz<br>MAX.<br>[ $\Omega$ ] | Z<br>10kHz<br>MAX.<br>[ $\Omega$ ] | $I_R$<br>100Hz<br>$T_{UC}$<br>[A] | ORDERING NO.*  |
|--------------------------------------|----------------------------------|----------------------------|-------------------------------|--------------------------------------------|------------------------------------|-----------------------------------|----------------|
| 10                                   | 6.3                              | 3.3 x 8                    | 0.30                          | 47.7                                       | 20.0                               | 0.011                             | EL 00AN210B00V |
| 10                                   | 6.3                              | 3.3 x 11                   | 0.30                          | 47.7                                       | 20.0                               | 0.015                             | EL 00AA210B00V |
| 470                                  | 6.3                              | 8 x 18                     | 0.25                          | 0.847                                      | 0.430                              | 0.33                              | EB 00FL347B00V |
| 1000                                 | 6.3                              | 10 x 25                    | 0.25                          | 0.398                                      | 0.200                              | 0.56                              | EB 00GD410B00V |
| 1500                                 | 6.3                              | 12 x 25                    | 0.26                          | 0.276                                      | 0.170                              | 0.54                              | EB 00HD415B00B |
| 2200                                 | 6.3                              | 12 x 25                    | 0.24                          | 0.200                                      | 0.100                              | 1.0                               | EB 00HD422B00B |
| 3300                                 | 6.3                              | 12 x 30                    | 0.26                          | 0.150                                      | 0.070                              | 1.6                               | EB 00HE433B00B |
| 4700                                 | 6.3                              | 16 x 40                    | 0.28                          | 0.110                                      | 0.050                              | 1.8                               | EG 00KG447B00B |
| 6800                                 | 6.3                              | 18 x 40                    | 0.30                          | 0.066                                      | < 0.050                            | 2.1                               | EG 00LG468B00B |
| 10000                                | 6.3                              | 21 x 40                    | 0.34                          | 0.055                                      | < 0.050                            | 2.4                               | EG 00MG510B00B |
| 15000                                | 6.3                              | 25 x 40                    | 0.45                          | 0.050                                      | < 0.050                            | 2.5                               | EG 00NG515B00B |
| 22000                                | 6.3                              | 25 x 50                    | 0.50                          | < 0.050                                    | < 0.050                            | 3.0                               | EG 00NJ522B00B |
| 33000                                | 6.3                              | 30 x 50                    | 0.80                          | < 0.050                                    | < 0.050                            | 3.0                               | EG 00PJ533B00B |
| 22                                   | 10                               | 4.5 x 11                   | 0.20                          | 14.5                                       | 7.30                               | 0.045                             | EL 00BA222C00V |
| 47                                   | 10                               | 4.5 x 11                   | 0.20                          | 6.78                                       | 3.40                               | 0.070                             | EL 00BA247C00V |
| 100                                  | 10                               | 6 x 10                     | 0.20                          | 3.19                                       | 1.60                               | 0.11                              | EB 00CK310C00V |
| 220                                  | 10                               | 6.5 x 18                   | 0.20                          | 1.45                                       | 0.730                              | 0.21                              | EB 00DL322C00V |
| 470                                  | 10                               | 10 x 18                    | 0.20                          | 0.680                                      | 0.340                              | 0.41                              | EB 00GL347C00V |
| 1000                                 | 10                               | 10 x 25                    | 0.20                          | 0.320                                      | 0.160                              | 0.56                              | EB 00GD410C00V |
| 1500                                 | 10                               | 12 x 25                    | 0.21                          | 0.220                                      | 0.110                              | 1.0                               | EB 00HD415C00B |
| 2200                                 | 10                               | 12 x 30                    | 0.22                          | 0.160                                      | 0.080                              | 1.3                               | EB 00HE422C00B |
| 3300                                 | 10                               | 16 x 40                    | 0.25                          | 0.120                                      | 0.050                              | 1.9                               | EG 00KG433C00B |
| 4700                                 | 10                               | 16 x 40                    | 0.26                          | 0.090                                      | < 0.050                            | 2.2                               | EG 00KG447C00B |
| 6800                                 | 10                               | 21 x 40                    | 0.32                          | 0.070                                      | < 0.050                            | 2.6                               | EG 00MG468C00B |
| 10000                                | 10                               | 25 x 40                    | 0.36                          | 0.060                                      | < 0.050                            | 2.7                               | EG 00NG510C00B |
| 15000                                | 10                               | 25 x 45                    | 0.48                          | 0.050                                      | < 0.050                            | 2.9                               | EG 00NH515C00B |
| 22000                                | 10                               | 30 x 45                    | 0.62                          | < 0.050                                    | < 0.050                            | 2.9                               | EG 00PH522C00B |
| 4.7                                  | 16                               | 3.3 x 11                   | 0.20                          | 67.8                                       | 26.0                               | 0.015                             | EL 00AA147D00V |
| 4.7                                  | 16                               | 3.3 x 8                    | 0.20                          | 68.0                                       | 26.0                               | 0.009                             | EL 00AN147D00V |
| 10                                   | 16                               | 3.3 x 11                   | 0.20                          | 32.0                                       | 12.0                               | 0.016                             | EL 00AA210D00V |
| 220                                  | 16                               | 8 x 18                     | 0.16                          | 1.16                                       | 0.550                              | 0.27                              | EB 00FL322D00V |
| 470                                  | 16                               | 10 x 18                    | 0.16                          | 0.540                                      | 0.280                              | 0.41                              | EB 00GL347D00V |
| 1000                                 | 16                               | 10 x 25                    | 0.16                          | 0.260                                      | 0.130                              | 0.55                              | EB 00GD410D00V |
| 1500                                 | 16                               | 12 x 30                    | 0.17                          | 0.180                                      | 0.090                              | 1.2                               | EB 00HE415D00B |

| ELECTRICAL CHARACTERISTICS AND ORDERING CODE |                                  |                            |                               |                                            |                                    |                                   |                |
|----------------------------------------------|----------------------------------|----------------------------|-------------------------------|--------------------------------------------|------------------------------------|-----------------------------------|----------------|
| CAP<br>100 Hz<br>$C_R$<br>[ $\mu$ F]         | RATED<br>VOLTAGE<br>$U_R$<br>[V] | DIMENSION<br>D x L<br>[mm] | TAN $\delta$<br>100Hz<br>MAX. | $R_{ESR}$<br>100Hz<br>MAX.<br>[ $\Omega$ ] | Z<br>10kHz<br>MAX.<br>[ $\Omega$ ] | $I_R$<br>100Hz<br>$T_{UC}$<br>[A] | ORDERING NO.*  |
| 2200                                         | 16                               | 16 x 30                    | 0.18                          | 0.130                                      | 0.060                              | 1.6                               | EG 00KE422D00B |
| 3300                                         | 16                               | 16 x 40                    | 0.21                          | 0.100                                      | < 0.050                            | 2.1                               | EG 00KG433D00B |
| 4700                                         | 16                               | 18 x 40                    | 0.24                          | 0.080                                      | < 0.050                            | 2.4                               | EG 00LG447D00B |
| 6800                                         | 16                               | 21 x 40                    | 0.28                          | 0.070                                      | < 0.050                            | 2.5                               | EG 00MG468D00B |
| 10000                                        | 16                               | 25 x 40                    | 0.34                          | 0.050                                      | < 0.050                            | 2.6                               | EG 00NG510D00B |
| 15000                                        | 16                               | 30 x 40                    | 0.44                          | < 0.050                                    | < 0.050                            | 2.5                               | EG 00PG515D00B |
| 22000                                        | 16                               | 30 x 50                    | 0.58                          | < 0.050                                    | < 0.050                            | 3.0                               | EG 00PJ522D00B |
| 10                                           | 25                               | 4.5 x 11                   | 0.14                          | 22.3                                       | 9.00                               | 0.050                             | EL 00BA210E00V |
| 22                                           | 25                               | 4.5 x 11                   | 0.14                          | 10.2                                       | 4.10                               | 0.060                             | EL 00BA222E00V |
| 47                                           | 25                               | 6 x 10                     | 0.14                          | 4.80                                       | 1.90                               | 0.10                              | EB 00CK247E00V |
| 100                                          | 25                               | 6.5 x 18                   | 0.14                          | 2.23                                       | 0.900                              | 0.16                              | EB 00DL310E00V |
| 220                                          | 25                               | 10 x 18                    | 0.14                          | 1.02                                       | 0.410                              | 0.35                              | EB 00GL322E00V |
| 470                                          | 25                               | 10 x 25                    | 0.14                          | 0.470                                      | 0.190                              | 0.50                              | EB 00GD347E00V |
| 680                                          | 25                               | 12 x 25                    | 0.14                          | 0.320                                      | 0.130                              | 0.87                              | EB 00HD368E00B |
| 1000                                         | 25                               | 12 x 30                    | 0.14                          | 0.220                                      | 0.090                              | 1.1                               | EB 00HE410E00B |
| 1500                                         | 25                               | 16 x 30                    | 0.15                          | 0.160                                      | 0.060                              | 1.5                               | EG 00KE415E00B |
| 2200                                         | 25                               | 16 x 40                    | 0.16                          | 0.120                                      | < 0.050                            | 1.9                               | EG 00KG422E00B |
| 3300                                         | 25                               | 18 x 40                    | 0.19                          | 0.090                                      | < 0.050                            | 2.2                               | EG 00LG433E00B |
| 4700                                         | 25                               | 21 x 40                    | 0.21                          | 0.070                                      | < 0.050                            | 2.4                               | EG 00MG447E00B |
| 6800                                         | 25                               | 25 x 40                    | 0.26                          | 0.060                                      | < 0.050                            | 2.5                               | EG 00NG468E00B |
| 10000                                        | 25                               | 30 x 40                    | 0.32                          | 0.050                                      | < 0.050                            | 2.8                               | EG 00PG510E00B |
| 10000                                        | 25                               | 25 x 40                    | 0.32                          | 0.050                                      | < 0.050                            | 2.9                               | EG 00NG510E00B |
| 15000                                        | 25                               | 30 x 50                    | 0.36                          | < 0.050                                    | < 0.050                            | 3.0                               | EG 00PJ515E00B |
| 1                                            | 40                               | 3.3 x 11                   | 0.16                          | 239                                        | 75.0                               | 0.008                             | EL 00AA110G00V |
| 2.2                                          | 40                               | 3.3 x 11                   | 0.15                          | 109                                        | 32.0                               | 0.015                             | EL 00AA122G00V |
| 2.2                                          | 40                               | 3.3 x 8                    | 0.16                          | 120                                        | 32.0                               | 0.007                             | EL 00AN122G00V |
| 4.7                                          | 40                               | 3.3 x 11                   | 0.16                          | 54.0                                       | 15.0                               | 0.013                             | EL 00AA147G00V |
| 10                                           | 40                               | 4.5 x 11                   | 0.11                          | 17.6                                       | 7.00                               | 0.050                             | EL 00BA210G00V |
| 22                                           | 40                               | 6 x 10                     | 0.11                          | 8.00                                       | 3.20                               | 0.075                             | EB 00CK222G00V |
| 47                                           | 40                               | 6.5 x 18                   | 0.11                          | 3.73                                       | 1.50                               | 0.045                             | EB 00DL247G00V |
| 100                                          | 40                               | 8 x 18                     | 0.11                          | 1.75                                       | 0.700                              | 0.22                              | EB 00FL310G00V |
| 220                                          | 40                               | 10 x 18                    | 0.12                          | 0.870                                      | 0.340                              | 0.36                              | EB 00GL322G00V |
| 470                                          | 40                               | 12 x 25                    | 0.10                          | 0.410                                      | 0.150                              | 0.75                              | EB 00HD347G00B |
| 680                                          | 40                               | 12 x 30                    | 0.10                          | 0.280                                      | 0.120                              | 0.94                              | EB 00HE368G00B |
| 1000                                         | 40                               | 16 x 30                    | 0.10                          | 0.190                                      | 0.080                              | 1.3                               | EG 00KE410G00B |
| 1500                                         | 40                               | 16 x 40                    | 0.13                          | 0.140                                      | 0.060                              | 1.6                               | EG 00KG415G00B |
| 2200                                         | 40                               | 18 x 40                    | 0.14                          | 0.100                                      | < 0.050                            | 2.0                               | EG 00LG422G00B |
| 3300                                         | 40                               | 21 x 40                    | 0.17                          | 0.080                                      | < 0.050                            | 2.2                               | EG 00MG433G00B |
| 4700                                         | 40                               | 25 x 40                    | 0.18                          | 0.070                                      | < 0.050                            | 2.4                               | EG 00NG447G00B |
| 6800                                         | 40                               | 30 x 40                    | 0.24                          | 0.060                                      | < 0.050                            | 2.4                               | EG 00PG468G00B |
| 6800                                         | 40                               | 25 x 50                    | 0.24                          | 0.060                                      | < 0.050                            | 2.8                               | EG 00NJ468G00B |
| 10000                                        | 40                               | 30 x 50                    | 0.32                          | < 0.050                                    | < 0.050                            | 2.9                               | EG 00PJ510G00B |
| 100                                          | 50                               | 10 x 18                    | 0.10                          | 1.60                                       | 0.650                              | 0.25                              | EB 00GL310H00V |
| 220                                          | 50                               | 12 x 25                    | 0.10                          | 0.720                                      | 0.300                              | 0.31                              | EB 00HD322H00B |
| 330                                          | 50                               | 12 x 25                    | 0.10                          | 0.480                                      | 0.200                              | 0.63                              | EB 00HD333H00B |
| 470                                          | 50                               | 12 x 30                    | 0.10                          | 0.340                                      | 0.140                              | 0.78                              | EB 00HE347H00B |
| 680                                          | 50                               | 16 x 30                    | 0.10                          | 0.240                                      | 0.100                              | 1.1                               | EG 00KE368H00B |
| 1000                                         | 50                               | 16 x 40                    | 0.10                          | 0.160                                      | 0.070                              | 1.4                               | EG 00KG410H00B |
| 1500                                         | 50                               | 18 x 40                    | 0.11                          | 0.120                                      | 0.050                              | 1.7                               | EG 00LG415H00B |
| 2200                                         | 50                               | 21 x 40                    | 0.12                          | 0.090                                      | < 0.050                            | 2.1                               | EG 00MG422H00B |
| 3300                                         | 50                               | 25 x 40                    | 0.15                          | 0.070                                      | < 0.050                            | 2.3                               | EG 00NG433H00B |
| 4700                                         | 50                               | 25 x 50                    | 0.18                          | 0.060                                      | < 0.050                            | 2.8                               | EG 00NJ447H00B |
| 4700                                         | 50                               | 30 x 45                    | 0.18                          | 0.060                                      | < 0.050                            | 2.8                               | EG 00PH447H00B |
| 6800                                         | 50                               | 30 x 50                    | 0.22                          | 0.050                                      | < 0.050                            | 3.0                               | EG 00PJ468H00B |
| 0.47                                         | 63                               | 3.3 x 11                   | 0.10                          | 339                                        | 117                                | 0.008                             | EL 00AA047J00V |
| 0.47                                         | 63                               | 3.3 x 8                    | 0.10                          | 340                                        | 120                                | 0.004                             | EL 00AN047J00V |
| 1                                            | 63                               | 4.5 x 11                   | 0.09                          | 143                                        | 55.0                               | 0.013                             | EL 00BA110J00V |
| 1                                            | 63                               | 3.3 x 8                    | 0.12                          | 190                                        | 55.0                               | 0.006                             | EL 00AN110J00V |
| 2.2                                          | 63                               | 4.5 x 11                   | 0.09                          | 65.2                                       | 25.0                               | 0.025                             | EL 00BA122J00V |
| 2.2                                          | 63                               | 3.3 x 11                   | 0.14                          | 87.0                                       | 25.0                               | 0.011                             | EL 00AA122J00V |
| 4.7                                          | 63                               | 4.5 x 11                   | 0.09                          | 30.5                                       | 12.0                               | 0.040                             | EL 00BA147J00V |
| 10                                           | 63                               | 6 x 10                     | 0.08                          | 12.8                                       | 5.50                               | 0.070                             | EB 00CK210J00V |

**ELECTRICAL CHARACTERISTICS AND ORDERING CODE**

| CAP<br>100 Hz<br>$C_R$<br>[ $\mu$ F] | RATED<br>VOLTAGE<br>$U_R$<br>[V] | DIMENSION<br>D x L<br>[mm] | TAN $\delta$<br>100Hz<br>MAX. | $R_{ESR}$<br>100Hz<br>MAX.<br>[ $\Omega$ ] | Z<br>10kHz<br>MAX.<br>[ $\Omega$ ] | $I_R$<br>100Hz<br>$T_{UC}$<br>[A] | ORDERING NO.*  |
|--------------------------------------|----------------------------------|----------------------------|-------------------------------|--------------------------------------------|------------------------------------|-----------------------------------|----------------|
| 22                                   | 63                               | 6.5 x 18                   | 0.08                          | 5.79                                       | 2.50                               | 0.11                              | EB 00DL222J00V |
| 47                                   | 63                               | 8 x 18                     | 0.08                          | 2.71                                       | 1.20                               | 0.19                              | EB 00FL247J00V |
| 100                                  | 63                               | 10 x 25                    | 0.08                          | 1.28                                       | 0.550                              | 0.30                              | EB 00GD310J00V |
| 220                                  | 63                               | 12 x 25                    | 0.08                          | 0.580                                      | 0.250                              | 0.52                              | EB 00HD322J00B |
| 330                                  | 63                               | 12 x 30                    | 0.08                          | 0.380                                      | 0.170                              | 0.67                              | EB 00HE333J00B |
| 470                                  | 63                               | 16 x 30                    | 0.08                          | 0.270                                      | 0.120                              | 0.92                              | EG 00KE347J00B |
| 680                                  | 63                               | 16 x 40                    | 0.08                          | 0.200                                      | 0.090                              | 1.2                               | EG 00KG368J00B |
| 1000                                 | 63                               | 18 x 40                    | 0.08                          | 0.130                                      | 0.060                              | 1.5                               | EG 00LG410J00B |
| 1500                                 | 63                               | 21 x 40                    | 0.09                          | 0.100                                      | 0.050                              | 1.9                               | EG 00MG415J00B |
| 2200                                 | 63                               | 25 x 40                    | 0.10                          | 0.070                                      | < 0.050                            | 2.2                               | EG 00NG422J00B |
| 3300                                 | 63                               | 25 x 50                    | 0.13                          | 0.060                                      | < 0.050                            | 2.6                               | EG 00NJ433J00B |
| 3300                                 | 63                               | 30 x 45                    | 0.13                          | 0.060                                      | < 0.050                            | 2.6                               | EG 00PH433J00B |
| 4700                                 | 63                               | 30 x 50                    | 0.15                          | 0.050                                      | < 0.050                            | 2.8                               | EG 00PJ447J00B |
| 0.47                                 | 100                              | 4.5 x 11                   | 0.08                          | 271                                        | 96.0                               | 0.009                             | EL 00BA047L00V |
| 1                                    | 100                              | 4.5 x 11                   | 0.08                          | 128                                        | 45.0                               | 0.020                             | EL 00BA110L00V |
| 2.2                                  | 100                              | 4.5 x 11                   | 0.08                          | 57.9                                       | 21.0                               | 0.030                             | EL 00BA122L00V |
| 4.7                                  | 100                              | 6 x 10                     | 0.07                          | 23.7                                       | 9.60                               | 0.050                             | EB 00CK147L00V |
| 10                                   | 100                              | 6.5 x 18                   | 0.07                          | 11.2                                       | 4.50                               | 0.090                             | EB 00DL210L00V |
| 22                                   | 100                              | 8 x 18                     | 0.07                          | 5.07                                       | 2.10                               | 0.12                              | EB 00FL222L00V |
| 47                                   | 100                              | 10 x 18                    | 0.07                          | 2.37                                       | 0.900                              | 0.15                              | EB 00GL247L00V |
| 100                                  | 100                              | 12 x 25                    | 0.07                          | 1.11                                       | 0.500                              | 0.31                              | EB 00HD310L00B |
| 150                                  | 100                              | 12 x 25                    | 0.07                          | 0.740                                      | 0.330                              | 0.37                              | EB 00HD315L00B |
| 220                                  | 100                              | 16 x 30                    | 0.07                          | 0.510                                      | 0.200                              | 0.54                              | EG 00KE322L00B |
| 330                                  | 100                              | 16 x 40                    | 0.07                          | 0.340                                      | 0.130                              | 0.70                              | EG 00KG333L00B |
| 470                                  | 100                              | 18 x 40                    | 0.07                          | 0.240                                      | 0.090                              | 0.90                              | EG 00LG347L00B |
| 680                                  | 100                              | 21 x 40                    | 0.07                          | 0.160                                      | 0.070                              | 1.2                               | EG 00MG368L00B |
| 1000                                 | 100                              | 25 x 40                    | 0.07                          | 0.110                                      | 0.050                              | 1.5                               | EG 00NG410L00B |
| 1500                                 | 100                              | 25 x 50                    | 0.08                          | 0.090                                      | < 0.050                            | 1.9                               | EG 00NJ415L00B |
| 2200                                 | 100                              | 30 x 50                    | 0.10                          | 0.070                                      | < 0.050                            | 2.3                               | EG 00PJ422L00B |
| 4.7                                  | 160                              | 6.5 x 18                   | 0.15                          | 51.0                                       | 26.0                               | 0.050                             | EB 00DL147M00V |
| 10                                   | 160                              | 8 x 18                     | 0.15                          | 24.0                                       | 12.0                               | 0.070                             | EB 00FL210M00V |
| 22                                   | 160                              | 10 x 25                    | 0.15                          | 11.0                                       | 5.50                               | 0.19                              | EB 00GD222M00V |
| 33                                   | 160                              | 12 x 25                    | 0.07                          | 3.38                                       | 1.04                               | 0.23                              | EB 00HD233M00B |
| 47                                   | 160                              | 12 x 25                    | 0.07                          | 2.37                                       | 0.730                              | 0.29                              | EB 00HD247M00B |
| 68                                   | 160                              | 12 x 30                    | 0.07                          | 1.64                                       | 0.505                              | 0.37                              | EB 00HE268M00B |
| 100                                  | 160                              | 18 x 30                    | 0.07                          | 1.12                                       | 0.350                              | 0.56                              | EG 00LE310M00B |
| 150                                  | 160                              | 18 x 40                    | 0.07                          | 0.745                                      | 0.235                              | 0.73                              | EG 00LG315M00B |
| 220                                  | 160                              | 21 x 40                    | 0.07                          | 0.505                                      | 0.165                              | 0.97                              | EG 00MG322M00B |
| 330                                  | 160                              | 25 x 40                    | 0.07                          | 0.340                                      | 0.115                              | 1.3                               | EG 00NG333M00B |
| 470                                  | 160                              | 25 x 45                    | 0.07                          | 0.235                                      | 0.085                              | 1.6                               | EG 00NH347M00B |
| 680                                  | 160                              | 30 x 45                    | 0.07                          | 0.165                                      | 0.065                              | 2.0                               | EG 00PH368M00B |
| 2.2                                  | 250                              | 6.5 x 18                   | 0.10                          | 72.0                                       | 50.0                               | 0.035                             | EB 00DL122N00V |
| 4.7                                  | 250                              | 8 x 18                     | 0.10                          | 34.0                                       | 23.0                               | 0.055                             | EB 00FL147N00V |
| 10                                   | 250                              | 10 x 25                    | 0.10                          | 16.0                                       | 11.0                               | 0.090                             | EB 00GD210N00V |
| 22                                   | 250                              | 12 x 25                    | 0.07                          | 5.07                                       | 1.84                               | 0.20                              | EB 00HD222N00B |
| 33                                   | 250                              | 12 x 25                    | 0.07                          | 3.38                                       | 1.23                               | 0.26                              | EB 00HD233N00B |
| 47                                   | 250                              | 16 x 30                    | 0.07                          | 2.37                                       | 0.865                              | 0.38                              | EG 00KE247N00B |
| 68                                   | 250                              | 18 x 30                    | 0.07                          | 1.64                                       | 0.600                              | 0.49                              | EG 00LE268N00B |
| 100                                  | 250                              | 18 x 40                    | 0.07                          | 1.12                                       | 0.410                              | 0.63                              | EG 00LG310N00B |
| 150                                  | 250                              | 21 x 40                    | 0.07                          | 0.745                                      | 0.280                              | 0.86                              | EG 00MG315N00B |
| 220                                  | 250                              | 25 x 40                    | 0.07                          | 0.505                                      | 0.195                              | 1.1                               | EG 00NG322N00B |
| 330                                  | 250                              | 25 x 50                    | 0.07                          | 0.340                                      | 0.135                              | 1.5                               | EG 00NJ333N00B |
| 470                                  | 250                              | 30 x 45                    | 0.07                          | 0.235                                      | 0.105                              | 1.8                               | EG 00PH347N00B |
| 4.7                                  | 350                              | 10 x 18                    | 0.10                          | 34.0                                       | 22.0                               | 0.060                             | EB 00GL147O00V |
| 10                                   | 350                              | 12 x 25                    | 0.09                          | 12.5                                       | 7.56                               | 0.13                              | EB 00HD210O00B |
| 15                                   | 350                              | 12 x 25                    | 0.09                          | 8.32                                       | 5.04                               | 0.16                              | EB 00HD215O00B |
| 22                                   | 350                              | 12 x 30                    | 0.09                          | 5.68                                       | 3.44                               | 0.21                              | EB 00HE222O00B |
| 33                                   | 350                              | 16 x 30                    | 0.09                          | 3.79                                       | 2.30                               | 0.31                              | EG 00KE233O00B |
| 47                                   | 350                              | 18 x 30                    | 0.09                          | 2.67                                       | 1.62                               | 0.41                              | EG 00LE247O00B |
| 68                                   | 350                              | 18 x 40                    | 0.09                          | 1.85                                       | 1.12                               | 0.52                              | EG 00LG268O00B |
| 100                                  | 350                              | 21 x 40                    | 0.09                          | 1.26                                       | 0.765                              | 0.69                              | EG 00MG310O00B |
| 150                                  | 350                              | 25 x 40                    | 0.09                          | 0.850                                      | 0.520                              | 0.95                              | EG 00NG315O00B |

| ELECTRICAL CHARACTERISTICS AND ORDERING CODE |                                  |                            |                               |                                            |                                    |                                   |                |
|----------------------------------------------|----------------------------------|----------------------------|-------------------------------|--------------------------------------------|------------------------------------|-----------------------------------|----------------|
| CAP<br>100 Hz<br>$C_R$<br>[ $\mu$ F]         | RATED<br>VOLTAGE<br>$U_R$<br>[V] | DIMENSION<br>D x L<br>[mm] | TAN $\delta$<br>100Hz<br>MAX. | $R_{ESR}$<br>100Hz<br>MAX.<br>[ $\Omega$ ] | Z<br>10kHz<br>MAX.<br>[ $\Omega$ ] | $I_R$<br>100Hz<br>$T_{UC}$<br>[A] | ORDERING NO.*  |
| 220                                          | 350                              | 30 x 40                    | 0.09                          | 0.595                                      | 0.370                              | 1.3                               | EG 00PG322O00B |
| 330                                          | 350                              | 30 x 50                    | 0.09                          | 0.400                                      | 0.250                              | 1.6                               | EG 00PJ333O00B |
| 1                                            | 385                              | 6.5 x 18                   | 0.10                          | 160                                        | 100                                | 0.020                             | EB 00DL110R00V |
| 2.2                                          | 385                              | 8 x 18                     | 0.10                          | 72.0                                       | 45.0                               | 0.040                             | EB 00FL122R00V |
| 4.7                                          | 385                              | 10 x 25                    | 0.10                          | 34.0                                       | 22.0                               | 0.070                             | EB 00GD147R00V |
| 10                                           | 385                              | 12 x 25                    | 0.10                          | 16.0                                       | 6.85                               | 0.13                              | EB 00HD210R00B |
| 15                                           | 385                              | 12 x 25                    | 0.10                          | 11.0                                       | 4.57                               | 0.16                              | EB 00HD215R00B |
| 22                                           | 385                              | 12 x 30                    | 0.10                          | 7.24                                       | 3.12                               | 0.21                              | EB 00HE222R00B |
| 33                                           | 385                              | 16 x 30                    | 0.10                          | 4.83                                       | 2.09                               | 0.31                              | EG 00KE233R00B |
| 47                                           | 385                              | 16 x 40                    | 0.10                          | 3.39                                       | 1.73                               | 0.39                              | EG 00KG247R00B |
| 68                                           | 385                              | 18 x 40                    | 0.10                          | 2.34                                       | 1.02                               | 0.52                              | EG 00LG268R00B |
| 100                                          | 385                              | 21 x 40                    | 0.10                          | 1.59                                       | 0.825                              | 0.70                              | EG 00MG310R00B |
| 150                                          | 385                              | 25 x 45                    | 0.10                          | 1.06                                       | 0.520                              | 0.96                              | EG 00NH315R00B |
| 220                                          | 385                              | 30 x 40                    | 0.10                          | 0.725                                      | 0.340                              | 1.3                               | EG 00PG322R00B |
| 15                                           | 400                              | 12 x 25                    | 0.06                          | 5.64                                       | 3.13                               | 0.18                              | EB 00HD215X00B |
| 22                                           | 400                              | 16 x 30                    | 0.06                          | 3.74                                       | 2.08                               | 0.28                              | EG 00KE222X00B |
| 33                                           | 400                              | 16 x 30                    | 0.06                          | 2.51                                       | 1.39                               | 0.35                              | EG 00KE233X00B |
| 47                                           | 400                              | 16 x 40                    | 0.06                          | 1.76                                       | 0.975                              | 0.45                              | EG 00KG247X00B |
| 68                                           | 400                              | 18 x 40                    | 0.06                          | 1.22                                       | 0.680                              | 0.59                              | EG 00LG268X00B |
| 100                                          | 400                              | 21 x 40                    | 0.06                          | 0.840                                      | 0.470                              | 0.78                              | EG 00MG310X00B |
| 150                                          | 400                              | 25 x 40                    | 0.06                          | 0.575                                      | 0.325                              | 1.0                               | EG 00NG315X00B |
| 220                                          | 400                              | 30 x 40                    | 0.07                          | 0.410                                      | 0.235                              | 1.4                               | EG 00PG322X00B |
| 10                                           | 450                              | 12 x 25                    | 0.15                          | 24.0                                       | 6.21                               | 0.13                              | EB 00HD210P00B |
| 15                                           | 450                              | 12 x 30                    | 0.15                          | 16.0                                       | 4.14                               | 0.17                              | EB 00HE215P00B |
| 22                                           | 450                              | 16 x 30                    | 0.15                          | 11.0                                       | 2.83                               | 0.24                              | EG 00KE222P00B |
| 33                                           | 450                              | 18 x 30                    | 0.15                          | 7.24                                       | 1.89                               | 0.33                              | EG 00LE233P00B |
| 47                                           | 450                              | 18 x 40                    | 0.15                          | 5.08                                       | 1.33                               | 0.42                              | EG 00LG247P00B |
| 68                                           | 450                              | 21 x 40                    | 0.15                          | 3.52                                       | 0.920                              | 0.56                              | EG 00MG268P00B |
| 100                                          | 450                              | 25 x 40                    | 0.15                          | 2.39                                       | 0.635                              | 0.76                              | EG 00NG310P00B |
| 150                                          | 450                              | 30 x 40                    | 0.15                          | 1.59                                       | 0.435                              | 1.0                               | EG 00PG315P00B |
| 220                                          | 450                              | 30 x 45                    | 0.15                          | 1.09                                       | 0.300                              | 1.3                               | EG 00PH322P00B |
| 6.8                                          | 500                              | 12 x 25                    | 0.08                          | 15.9                                       | 9.78                               | 0.12                              | EB 00HD168Y00B |
| 10                                           | 500                              | 12 x 30                    | 0.08                          | 10.8                                       | 6.65                               | 0.15                              | EB 00HE210Y00B |
| 15                                           | 500                              | 16 x 30                    | 0.08                          | 7.04                                       | 4.32                               | 0.23                              | EG 00KE215Y00B |
| 22                                           | 500                              | 16 x 40                    | 0.08                          | 4.80                                       | 2.95                               | 0.30                              | EG 00KG222Y00B |
| 33                                           | 500                              | 18 x 40                    | 0.08                          | 3.21                                       | 1.97                               | 0.40                              | EG 00LG233Y00B |
| 47                                           | 500                              | 21 x 40                    | 0.08                          | 2.26                                       | 1.39                               | 0.52                              | EG 00MG247Y00B |
| 68                                           | 500                              | 25 x 40                    | 0.08                          | 1.57                                       | 0.970                              | 0.70                              | EG 00NG268Y00B |
| 100                                          | 500                              | 25 x 45                    | 0.08                          | 1.08                                       | 0.665                              | 0.88                              | EG 00NH310Y00B |
| 150                                          | 500                              | 30 x 45                    | 0.08                          | 0.730                                      | 0.455                              | 1.2                               | EG 00PH315Y00B |

Table for the calculation of the maximum 10 kHz impedance at low temperatures.

| LOW TEMPERATURE BEHAVIOR                                  |                         |      |      |      |      |     |     |     |      |      |      |      |      |       |       |
|-----------------------------------------------------------|-------------------------|------|------|------|------|-----|-----|-----|------|------|------|------|------|-------|-------|
| Z (10kHz) [ $\Omega$ ] = TABULAR VALUE / $C_R$ [ $\mu$ F] |                         |      |      |      |      |     |     |     |      |      |      |      |      |       |       |
| $T_a$<br>[°C]                                             | RATED VOLTAGE $U_R$ [V] |      |      |      |      |     |     |     |      |      |      |      |      |       |       |
|                                                           | 6.3                     | 10   | 16   | 25   | 40   | 50  | 63  | 100 | 160  | 250  | 350  | 385  | 400  | 450   | 500   |
| -25                                                       | 1300                    | 1000 | 860  | 440  | 330  | 270 | 200 | 160 | 1000 | 940  | 860  | 1800 | 1800 | 5000  | 5000  |
| -40                                                       | 4800                    | 3500 | 2400 | 1200 | 1000 | 800 | 550 | 500 | 5000 | 4600 | 4200 | 6000 | 6000 | 10000 | 10000 |

The lower limit of the series resistance and impedance is determined by the ohmic part of the contact points and the foil resistance values. Therefore it will not always be possible to achieve calculated values below 0.05 $\Omega$ .

| <b>ADDITIONAL ELECTRICAL DATA</b> |                                                                        |                                                                                                                         |
|-----------------------------------|------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| PARAMETER                         | CONDITIONS                                                             | SPECIFICATION                                                                                                           |
| Leakage current $I_L$             | $U_R \leq 100V$ ; $U_{R'}$ , 300s<br>$U_R \geq 160V$ ; $U_{R'}$ , 300s | $I_L/\mu A \leq 0.0015 \times C_R/\mu F \times U_R/V + 3$<br>$I_L/\mu A \leq 0.0150 \times C_R/\mu F \times U_R/V + 10$ |
| Surge voltage $U_S$               | $U_R \leq 100V$<br>$U_R \geq 160V$                                     | $U_S = 1.15 \times U_R$<br>$U_S = 1.10 \times U_R$                                                                      |
| Reverse voltage $U_{rev}$         |                                                                        | $U_{rev} \leq 1V$                                                                                                       |

| <b>TEST PROCEDURES AND CRITERIA</b>         |                                              |                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                         |
|---------------------------------------------|----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TEST                                        | REFERENCE                                    | PROCEDURE                                                                                                                                                                                                                                                                 | CRITERION                                                                                                                                                                                                                                                                                               |
| Endurance                                   | IEC 60384-4/<br>EN 1300300<br>subclause 4.13 | $T_A$ = upper cat. temp.; $U_R$ applied;<br>$6.3V \leq U_R \leq 100V$ : 1000h<br><br>$T_A = 85^\circ C$ ; $U_R$ applied;<br>$160V \leq U_R \leq 500V$ : 2000h                                                                                                             | $U_R = 6.3V$ : - 40 % $\leq DC/C \leq 25\%$<br>$U_R > 6.3V$ : - 30 % $\leq DC/C \leq 30\%$<br>$\tan \delta \leq 1.5 \times \text{spec. limit}$<br>$Z \leq 3 \times \text{spec. limit}$<br>$I_L(300s) \leq \text{spec. limit}$                                                                           |
| Useful life                                 | CECC 30301<br>subclause 1.8.1                | $T_A = 105^\circ C$ ; $U_R$ and $I_R$ applied;<br>$6.3V \leq U_R \leq 100V$<br>case 4.5 x 11: 750h<br>cases 6 x 10 to 10 x 25: 1000h<br>cases 12 x 25 to 30 x 50: 2000h<br><br>$T_A = 85^\circ C$ ; $U_R$ and $I_R$ applied;<br>$160V \leq U_R \leq 500V$ : 5000h         | $U_R = 6.3V$ : - 50 % $\leq DC/C \leq 45\%$<br>$U_R > 6.3V$ : - 45 % $\leq DC/C \leq 45\%$<br>$\tan \delta \leq 3 \times \text{spec. limit}$<br>$Z \leq 3 \times \text{spec. limit}$<br>$I_L(300s) \leq \text{spec. limit}$<br>no short circuit, no open circuit<br>total failure percentage $\leq 1\%$ |
| Shelf life<br>(storage at high temperature) | IEC 60348-4/<br>EN 130300<br>subclause 4.17  | $T_A$ = upper cat. temp.; no voltage applied;<br>$6.3V \leq U_R \leq 100V$<br>cases 3.3 x 8 to 10 x 25: 500h<br>cases 12 x 25 to 30 x 50: 100h<br>$160V \leq U_R \leq 500V$ : 100h<br><br>After test: $U_R$ to be applied for 30 minutes<br>24h to 48h before measurement | $U_R = 6.3V$ : - 40 % $\leq DC/C \leq 25\%$<br>$U_R > 6.3V$ : - 30 % $\leq DC/C \leq 30\%$<br>$\tan \delta \leq 1.5 \times \text{spec. limit}$<br>$Z \leq 3 \times \text{spec. limit}$<br>$I_L(300s) \leq 2 \times \text{spec. limit}$                                                                  |

**OPERATING LIFE TABLE**

Interrelation between alternating current load, ambient temperature and useful life

**U<sub>R</sub> ≤ 100V and Ø ≤ 10mm**

| Current ratio $I/I_R$ (depending on frequency) |      |      |      |      |      |      | Multiplier L for useful life (depending on $I/I_R$ and $T_a$ ) |      |      |      |      |      |      |      |      |      |      |      |      |
|------------------------------------------------|------|------|------|------|------|------|----------------------------------------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| 3.42                                           | 3.80 | 4.18 | 4.37 | 4.56 | 4.75 | 4.94 | 0.32                                                           | 0.37 | 0.42 | 0.34 | 0.36 | 0.28 | 0.30 | 0.30 | 0.30 | 0.29 | 0.28 | 0.32 | 0.29 |
| 3.24                                           | 3.60 | 3.96 | 4.14 | 4.32 | 4.50 | 4.68 | 0.46                                                           | 0.53 | 0.42 | 0.34 | 0.36 | 0.28 | 0.30 | 0.30 | 0.30 | 0.29 | 0.28 | 0.32 | 0.29 |
| 3.06                                           | 3.40 | 3.74 | 3.91 | 4.08 | 4.25 | 4.42 | 0.66                                                           | 0.75 | 0.59 | 0.46 | 0.49 | 0.38 | 0.39 | 0.39 | 0.39 | 0.37 | 0.35 | 0.39 | 0.34 |
| 2.88                                           | 3.20 | 3.52 | 3.68 | 3.84 | 4.00 | 4.16 | 0.95                                                           | 1.11 | 0.82 | 0.64 | 0.67 | 0.51 | 0.51 | 0.51 | 0.51 | 0.49 | 0.47 | 0.43 | 0.40 |
| 2.70                                           | 3.00 | 3.30 | 3.45 | 3.60 | 3.75 | 3.90 | 1.4                                                            | 1.5  | 1.1  | 0.87 | 0.89 | 0.67 | 0.67 | 0.67 | 0.67 | 0.63 | 0.61 | 0.57 | 0.54 |
| 2.52                                           | 2.80 | 3.08 | 3.22 | 3.36 | 3.50 | 3.64 | 1.9                                                            | 2.1  | 1.6  | 1.2  | 1.2  | 0.89 | 0.89 | 0.89 | 0.89 | 0.85 | 0.83 | 0.79 | 0.76 |
| 2.34                                           | 2.60 | 2.86 | 2.99 | 3.12 | 3.25 | 3.38 | 2.7                                                            | 2.8  | 2.1  | 1.6  | 1.6  | 1.2  | 1.2  | 1.2  | 1.2  | 1.1  | 1.0  | 0.96 | 0.93 |
| 2.16                                           | 2.40 | 2.64 | 2.76 | 2.88 | 3.00 | 3.12 | 3.8                                                            | 3.9  | 2.9  | 2.1  | 2.1  | 1.6  | 1.6  | 1.6  | 1.6  | 1.5  | 1.4  | 1.3  | 1.2  |
| 1.98                                           | 2.20 | 2.42 | 2.53 | 2.64 | 2.75 | 2.86 | 5.3                                                            | 5.3  | 3.8  | 2.8  | 2.8  | 2.0  | 2.0  | 2.0  | 2.0  | 1.9  | 1.8  | 1.7  | 1.6  |
| 1.80                                           | 2.00 | 2.20 | 2.30 | 2.40 | 2.50 | 2.60 | 7.3                                                            | 7.3  | 5.3  | 3.8  | 3.8  | 2.8  | 2.8  | 2.8  | 2.8  | 2.7  | 2.6  | 2.5  | 2.4  |
| 1.62                                           | 1.80 | 1.98 | 2.07 | 2.16 | 2.25 | 2.34 | 10                                                             | 10   | 7.1  | 5.1  | 3.6  | 2.6  | 2.6  | 2.6  | 2.6  | 2.5  | 2.4  | 2.3  | 2.2  |
| 1.44                                           | 1.60 | 1.76 | 1.84 | 1.92 | 2.00 | 2.08 | 13                                                             | 13   | 9.4  | 6.6  | 4.7  | 3.3  | 3.3  | 3.3  | 3.3  | 3.2  | 3.1  | 3.0  | 2.9  |
| 1.26                                           | 1.40 | 1.54 | 1.61 | 1.68 | 1.75 | 1.82 | 18                                                             | 18   | 12   | 8.5  | 5.9  | 4.1  | 4.1  | 4.1  | 4.1  | 4.0  | 3.9  | 3.8  | 3.7  |
| 1.08                                           | 1.20 | 1.32 | 1.38 | 1.44 | 1.50 | 1.56 | 23                                                             | 23   | 16   | 11   | 7.3  | 5.0  | 3.5  | 3.5  | 3.5  | 3.4  | 3.3  | 3.2  | 3.1  |
| 0.90                                           | 1.00 | 1.10 | 1.15 | 1.20 | 1.25 | 1.30 | 29                                                             | 29   | 19   | 13   | 8.8  | 6.0  | 4.1  | 4.1  | 4.1  | 4.0  | 3.9  | 3.8  | 3.7  |
| 0.72                                           | 0.80 | 0.88 | 0.92 | 0.96 | 1.00 | 1.04 | 36                                                             | 36   | 24   | 16   | 10   | 7.0  | 4.8  | 3.3  | 3.3  | 3.2  | 3.1  | 3.0  | 2.9  |
| 0.54                                           | 0.60 | 0.66 | 0.69 | 0.72 | 0.75 | 0.78 | 43                                                             | 43   | 28   | 18   | 12   | 8.0  | 5.4  | 3.7  | 2.5  | 1.8  | 1.24 | 0.88 | 0.63 |
| 0.36                                           | 0.40 | 0.44 | 0.46 | 0.48 | 0.50 | 0.52 | 49                                                             | 49   | 31   | 20   | 13   | 8.8  | 5.9  | 4.0  | 2.7  | 1.9  | 1.33 | 0.94 | 0.67 |
| 0.18                                           | 0.20 | 0.22 | 0.23 | 0.24 | 0.25 | 0.26 | 54                                                             | 54   | 34   | 22   | 14   | 9.4  | 6.3  | 4.2  | 2.9  | 2.0  | 1.40 | 0.98 | 0.70 |
| 0                                              | 0    | 0    | 0    | 0    | 0    | 0    | 56                                                             | 56   | 35   | 23   | 15   | 9.7  | 6.4  | 4.3  | 3.0  | 2.0  | 1.42 | 1.00 | 0.71 |
| 50                                             | 100  | 250  | 500  | 1000 | 2500 | 10 K | 40                                                             | 45   | 50   | 55   | 60   | 65   | 70   | 75   | 80   | 85   | 90   | 95   | 100  |
| Frequency [Hz]                                 |      |      |      |      |      |      | Ambient temperature $T_a$ [°C]                                 |      |      |      |      |      |      |      |      |      |      |      |      |

**U<sub>R</sub> ≤ 100V and Ø ≥ 12mm**

| Current ratio $I/I_R$ (depending on frequency) |      |      |      |      |      |      | Multiplier L for useful life (depending on $I/I_R$ and $T_a$ ) |     |     |     |     |     |     |     |     |     |     |     |      |
|------------------------------------------------|------|------|------|------|------|------|----------------------------------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 3.42                                           | 3.80 | 4.18 | 4.37 | 4.56 | 4.75 | 4.94 | 1.2                                                            | 1.3 | 1.1 | 1.2 | 1.3 | 1.0 | 1.1 | 1.1 | 1.1 | 1.0 | 1.2 | 1.0 | 1.06 |
| 3.24                                           | 3.60 | 3.96 | 4.14 | 4.32 | 4.50 | 4.68 | 1.7                                                            | 1.9 | 1.5 | 1.2 | 1.3 | 1.0 | 1.1 | 1.1 | 1.1 | 1.0 | 1.2 | 1.0 | 1.06 |
| 3.06                                           | 3.40 | 3.74 | 3.91 | 4.08 | 4.25 | 4.42 | 2.4                                                            | 2.7 | 2.1 | 1.7 | 1.8 | 1.4 | 1.4 | 1.4 | 1.4 | 1.3 | 1.2 | 1.1 | 1.06 |
| 2.88                                           | 3.20 | 3.52 | 3.68 | 3.84 | 4.00 | 4.16 | 3.4                                                            | 3.8 | 3.0 | 2.3 | 2.4 | 1.8 | 1.8 | 1.8 | 1.8 | 1.7 | 1.6 | 1.5 | 1.06 |
| 2.70                                           | 3.00 | 3.30 | 3.45 | 3.60 | 3.75 | 3.90 | 4.9                                                            | 5.3 | 4.1 | 3.1 | 3.2 | 2.4 | 2.4 | 2.4 | 2.4 | 2.3 | 2.2 | 2.1 | 1.06 |
| 2.52                                           | 2.80 | 3.08 | 3.22 | 3.36 | 3.50 | 3.64 | 6.9                                                            | 7.4 | 5.6 | 4.2 | 4.3 | 3.2 | 3.2 | 3.2 | 3.2 | 3.1 | 3.0 | 2.9 | 1.06 |
| 2.34                                           | 2.60 | 2.86 | 2.99 | 3.12 | 3.25 | 3.38 | 9.7                                                            | 10  | 7.6 | 5.7 | 5.7 | 4.3 | 4.3 | 4.3 | 4.3 | 4.2 | 4.1 | 4.0 | 1.06 |
| 2.16                                           | 2.40 | 2.64 | 2.76 | 2.88 | 3.00 | 3.12 | 14                                                             | 14  | 10  | 7.6 | 7.6 | 5.7 | 5.7 | 5.7 | 5.7 | 5.6 | 5.5 | 5.4 | 1.06 |
| 1.98                                           | 2.20 | 2.42 | 2.53 | 2.64 | 2.75 | 2.86 | 19                                                             | 19  | 14  | 10  | 7.6 | 5.6 | 5.6 | 5.6 | 5.6 | 5.5 | 5.4 | 5.3 | 1.06 |
| 1.80                                           | 2.00 | 2.20 | 2.30 | 2.40 | 2.50 | 2.60 | 26                                                             | 26  | 19  | 14  | 10  | 7.3 | 5.3 | 5.3 | 5.3 | 5.2 | 5.1 | 5.0 | 1.06 |
| 1.62                                           | 1.80 | 1.98 | 2.07 | 2.16 | 2.25 | 2.34 | 36                                                             | 36  | 26  | 18  | 13  | 9.4 | 6.8 | 4.9 | 3.6 | 2.6 | 1.9 | 1.4 | 1.06 |
| 1.44                                           | 1.60 | 1.76 | 1.84 | 1.92 | 2.00 | 2.08 | 49                                                             | 49  | 34  | 24  | 17  | 12  | 8.4 | 6.0 | 4.3 | 3.1 | 2.3 | 1.7 | 1.06 |
| 1.26                                           | 1.40 | 1.54 | 1.61 | 1.68 | 1.75 | 1.82 | 64                                                             | 64  | 44  | 30  | 21  | 15  | 10  | 7.3 | 5.2 | 3.8 | 2.7 | 2.0 | 1.06 |
| 1.08                                           | 1.20 | 1.32 | 1.38 | 1.44 | 1.50 | 1.56 | 83                                                             | 83  | 56  | 38  | 26  | 18  | 13  | 8.8 | 6.2 | 4.4 | 3.2 | 2.3 | 1.06 |
| 0.90                                           | 1.00 | 1.10 | 1.15 | 1.20 | 1.25 | 1.30 | 105                                                            | 105 | 70  | 47  | 32  | 22  | 15  | 10  | 7.2 | 5.1 | 3.6 | 2.6 | 1.06 |
| 0.72                                           | 0.80 | 0.88 | 0.92 | 0.96 | 1.00 | 1.04 | 129                                                            | 129 | 85  | 56  | 37  | 25  | 17  | 12  | 8.2 | 5.7 | 4.1 | 2.9 | 1.06 |
| 0.54                                           | 0.60 | 0.66 | 0.69 | 0.72 | 0.75 | 0.78 | 155                                                            | 155 | 100 | 65  | 43  | 29  | 19  | 13  | 9.1 | 6.3 | 4.5 | 3.2 | 1.06 |
| 0.36                                           | 0.40 | 0.44 | 0.46 | 0.48 | 0.50 | 0.52 | 176                                                            | 176 | 113 | 73  | 48  | 32  | 21  | 14  | 9.9 | 6.9 | 4.8 | 3.4 | 1.06 |
| 0.18                                           | 0.20 | 0.22 | 0.23 | 0.24 | 0.25 | 0.26 | 194                                                            | 194 | 123 | 79  | 51  | 34  | 23  | 15  | 10  | 7.2 | 5.0 | 3.5 | 1.06 |
| 0                                              | 0    | 0    | 0    | 0    | 0    | 0    | 200                                                            | 200 | 127 | 81  | 53  | 35  | 23  | 16  | 11  | 7.4 | 5.1 | 3.6 | 1.06 |
| 50                                             | 100  | 250  | 500  | 1000 | 2500 | 10 K | 40                                                             | 45  | 50  | 55  | 60  | 65  | 70  | 75  | 80  | 85  | 90  | 95  | 100  |
| Frequency [Hz]                                 |      |      |      |      |      |      | Ambient temperature $T_a$ [°C]                                 |     |     |     |     |     |     |     |     |     |     |     |      |

**U<sub>R</sub> > 100V**

| Current ratio $I/I_R$ (depending on frequency) |      |      |      |      |      |      | Multiplier L for useful life (depending on $I/I_R$ and $T_a$ ) |     |     |     |     |     |     |     |     |      |      |      |      |
|------------------------------------------------|------|------|------|------|------|------|----------------------------------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|
| 2.21                                           | 2.60 | 3.02 | 3.22 | 3.38 | 3.48 | 3.64 | 1.1                                                            | 1.3 | 1.0 | 1.1 | 1.2 | 1.3 | 1.3 | 1.3 | 1.2 | 1.14 | 1.00 | 1.19 | 1.26 |
| 2.04                                           | 2.40 | 2.78 | 2.98 | 3.12 | 3.22 | 3.36 | 1.7                                                            | 2.0 | 1.5 | 1.1 | 1.2 | 1.3 | 1.3 | 1.3 | 1.2 | 1.14 | 1.00 | 1.19 | 1.26 |
| 1.87                                           | 2.20 | 2.55 | 2.73 | 2.86 | 2.95 | 3.08 | 2.6                                                            | 3.0 | 2.2 | 1.7 | 1.8 | 1.8 | 1.8 | 1.8 | 1.7 | 1.6  | 1.5  | 1.4  | 1.26 |
| 1.70                                           | 2.00 | 2.32 | 2.48 | 2.60 | 2.68 | 2.80 | 3.9                                                            | 4.4 | 3.2 | 2.4 | 2.5 | 2.5 | 2.5 | 2.5 | 2.4 | 2.3  | 2.2  | 2.1  | 1.26 |
| 1.53                                           | 1.80 | 2.09 | 2.23 | 2.34 | 2.41 | 2.52 | 5.9                                                            | 6.4 | 4.7 | 3.4 | 3.5 | 3.5 | 3.5 | 3.5 | 3.4 | 3.3  | 3.2  | 3.1  | 1.26 |
| 1.36                                           | 1.60 | 1.86 | 1.98 | 2.08 | 2.14 | 2.24 | 8.8                                                            | 9.2 | 6.5 | 4.7 | 4.8 | 4.8 | 4.8 | 4.8 | 4.7 | 4.6  | 4.5  | 4.4  | 1.26 |
| 1.19                                           | 1.40 | 1.62 | 1.74 | 1.82 | 1.88 | 1.96 | 13                                                             | 13  | 9.0 | 6.3 | 6.3 | 6.3 | 6.3 | 6.3 | 6.2 | 6.1  | 6.0  | 5.9  | 1.26 |
| 1.02                                           | 1.20 | 1.39 | 1.49 | 1.56 | 1.61 | 1.68 | 18                                                             | 18  | 13  | 9.0 | 6.3 | 6.3 | 6.3 | 6.3 | 6.2 | 6.1  | 6.0  | 5.9  | 1.26 |
| 0.85                                           | 1.00 | 1.16 | 1.24 | 1.30 | 1.34 | 1.40 | 26                                                             | 26  | 17  | 12  | 8.3 | 5.7 | 4.0 | 2.8 | 2.0 | 1.40 | 1.00 | 1.19 | 1.26 |
| 0.68                                           | 0.80 | 0.93 | 0.99 | 1.04 | 1.07 | 1.12 | 35                                                             | 35  | 23  | 16  | 11  | 7.2 | 4.9 | 3.4 | 2.4 | 1.68 | 1.19 | 1.26 | 1.31 |
| 0.51                                           | 0.60 | 0.70 | 0.74 | 0.78 | 0.80 | 0.84 | 44                                                             | 44  | 29  | 19  | 13  | 8.7 | 5.9 | 4.0 | 2.8 | 1.95 | 1.37 | 1.26 | 1.31 |
| 0.34                                           | 0.40 | 0.46 | 0.50 | 0.52 | 0.54 | 0.56 | 54                                                             | 54  | 35  | 23  | 15  | 10  | 6.7 | 4.6 | 3.1 | 2.18 | 1.53 | 1.31 | 1.36 |
| 0.17                                           | 0.20 | 0.23 | 0.25 | 0.26 | 0.27 | 0.28 | 63                                                             | 63  | 40  | 26  | 17  | 11  | 7   | 5.0 | 3.4 | 2.35 | 1.64 | 1.31 | 1.36 |
| 0                                              | 0    | 0    | 0    | 0    | 0    | 0    | 66                                                             | 66  | 42  | 27  | 17  | 11  | 8   | 5.1 | 3.5 | 2.42 | 1.69 | 1.31 | 1.36 |
| 50                                             | 100  | 250  | 500  | 1000 | 2500 | 10 K | 40                                                             | 45  | 50  | 55  | 60  | 65  | 70  | 75  | 80  | 85   | 90   | 95   | 100  |
| Frequency [Hz]                                 |      |      |      |      |      |      | Ambient temperature $T_a$ [°C]                                 |     |     |     |     |     |     |     |     |      |      |      |      |

 $I_R$  [A] Rated ripple current (100Hz, rms) at upper category temperature, taken from data sheet $I$  [A] User ripple current $T_a$  [°C] Ambient temperature of capacitor $L$  Useful life multiplierRegard  $L$  as a function of ambient temperature (x-axis) and of current (y-axis); use the current-axis according to the frequency



Specifications are subject to change without notice.

All details in printed form are legally binding especially with respect to the provisions of §§463 and 480 II of the German Code of Civil Law after written confirmation only. The data indicated herein described the type of component and shall not be considered as assured characteristics.

The products listed in this catalog are not generally recommended for use in life support systems where a failure or malfunction of the component may directly threaten life or cause injury.

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