

FELSIC HV

BC - BD



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8 000 h / 105°C

| | | | | |
|-----------------|-----------------------|-------------------------------|----------------|----------------|
| 160 V ... 450 V | 1000 µF ... 47 000 µF | Ø 51 (2,008) ... Ø 90 (3,543) | - 55°C + 105°C | Long Life Time |
|-----------------|-----------------------|-------------------------------|----------------|----------------|



APPLICATIONS

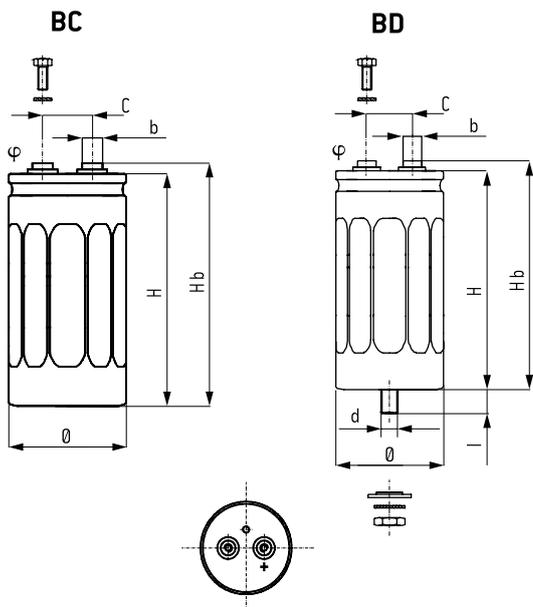
- Power electronics: converters, current inverters
- Switch mode power supplies
- Magnetization, welding machines, flash
- Circuit with high impulse current

Fixing: Clip or stud fixing

Screw terminals: M5 or M6

Tolerance on capacitance at 20°C: ± 20 %

Operating temperature : - 55°C + 105°C



| BC | BD |
|--|---|
| Insulated aluminum can | Aluminum can with sleeve |
| Hexagonal screws | Hexagonal screws |
| Spring washers | Spring washers |
| Fixing clip must be ordered separately | Stud fixing delivered with capacitor (steel hex nut, spring washer) |

DIMENSIONS in mm (inches)

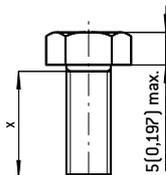
| Ø ±1 (0,039) | H ±2 (0,079) | Hb ±2 (0,079) | c ±0,5 (0,020) | φ | b |
|--------------|--------------|---------------|----------------|----|------------|
| 51 (2,008) | 81 (3,189) | 87 (3,425) | 22,2 (0,874) | M5 | 13 (0,512) |
| 51 (2,008) | 104 (4,094) | 110 (4,331) | 22,2 (0,874) | M5 | 13 (0,512) |
| 51 (2,008) | 144 (5,669) | 150 (5,906) | 22,2 (0,874) | M5 | 13 (0,512) |
| 66 (2,598) | 104 (4,094) | 111 (4,370) | 28,5 (1,122) | M5 | 13 (0,512) |
| 77 (3,031) | 104 (4,094) | 111 (4,370) | 31,7 (1,248) | M6 | 13 (0,512) |
| 77 (3,031) | 144 (5,669) | 151 (5,945) | 31,7 (1,248) | M6 | 13 (0,512) |
| 77 (3,031) | 220 (8,661) | 227 (8,937) | 31,7 (1,248) | M6 | 13 (0,512) |
| 90 (3,543) | 144 (5,669) | 151 (5,945) | 31,7 (1,248) | M6 | 13 (0,512) |
| 90 (3,543) | 200 (7,874) | 207 (8,150) | 31,7 (1,248) | M6 | 13 (0,512) |

| Ø | d | l | Max. nut torque |
|--------------|-----|---|-----------------|
| 36 (1,417) | M8 | 12 ^{±1} (0,472 ^{±0,472}) | 4 Nm |
| ≥ 51 (2,008) | M12 | 16 ^{±1,5} (0,630 ^{±0,059}) | 10 Nm |

HEXAGONAL SCREWS mm (inches)

Screwing height between screws and terminals:
3,5 (0,138) max

Max. screw torque: M5: 3 Nm [x min 8 (0,315)]
M6: 6 Nm [x min 10 (0,394)]



RESISTANCE TO VIBRATIONS

| Hb mm (inches) | >150 (5,906) | ≤150 (5,906) |
|----------------|----------------------------|-----------------------------|
| f (Hz) | 10 - 55 Hz | 10 - 2000 Hz |
| Amplitude | 0,75 (0,030) | 1,5 (0,059) |
| Acceleration | 10 g - 98 m/s ² | 20 g - 196 m/s ² |
| t (h) | 3 x 2 h | 3 x 2 h |

SPECIFICATIONS

NFC 83 110
DIN 40 040 - Climatic category FMD - 55°C + 105°C / 56 days
IEC 60 384.4 long life
Standard endurance test at U_R: 5000 h / 105°C

WITHSTAND STRENGTH OF INSULATING SLEEVE

Insulation resistance at 20°C between terminals and mounting hardware: 100 MΩ
Test voltage at 50 Hz 1 min. between terminals and mounting hardware: 2000 V
Fire resistance: self extinguish 15 s (IEC 60 695-2-2).

| Capacitance (μF) | Case | | ESR 100 Hz +20°C | | Z +20°C 10 kHz max. ($\text{m}\Omega$) | I +20°C 5 min. max. (mA) | I ~ | | Code | | | |
|----------------------------------|----------------------------|------------------|-------------------------------|------------------------------|--|-----------------------------------|----------------------|---------------|------|----|----------|----------|
| | \emptyset mm (inches) | H mm (inches) | Typic ($\text{m}\Omega$) | max. ($\text{m}\Omega$) | | | +40°C max. (A) | +105°C (A) | BC | BD | | |
| Rated voltage 160 V | | | | | | | | | | | | |
| 4700 | 51 | (2,008) | 104 | (4,094) | 20 | 30 | 28 | 1,50 | 25 | 12 | A 764080 | A 765080 |
| 6800 | 66 | (2,598) | 104 | (4,094) | 18 | 26 | 18 | 2,18 | 50 | 14 | A 764082 | A 765082 |
| 10000 | 77 | (3,031) | 104 | (4,094) | 12 | 18 | 16 | 3,20 | 60 | 19 | A 764084 | A 765084 |
| 15000 | 77 | (3,031) | 144 | (5,669) | 10 | 14 | 13 | 4,80 | 60 | 24 | A 764085 | A 765085 |
| 22000 | 77 | (3,031) | 144 | (5,669) | 9 | 13 | 12 | 7,00 | 60 | 26 | A 764086 | A 765086 |
| 33000 | 77 | (3,031) | 220 | (8,661) | 8 | 12 | 11 | 10,00 | 60 | 33 | A 764087 | A 765087 |
| 47000 | 90 | (3,543) | 200 | (7,874) | 6 | 9 | 8 | 15,00 | 80 | 40 | A 764088 | A 765088 |
| Rated voltage 250 V | | | | | | | | | | | | |
| 3300 | 51 | (2,008) | 104 | (4,094) | 28 | 45 | 30 | 1,65 | 25 | 10 | A 764100 | A 765100 |
| 4700 | 66 | (2,598) | 104 | (4,094) | 20 | 30 | 20 | 2,35 | 50 | 14 | A 764102 | A 765102 |
| 6800 | 77 | (3,031) | 104 | (4,094) | 16 | 24 | 16 | 3,40 | 60 | 17 | A 764104 | A 765104 |
| 10000 | 77 | (3,031) | 144 | (5,669) | 14 | 21 | 14 | 4,50 | 60 | 21 | A 764105 | A 765105 |
| 22000 | 90 | (3,543) | 200 | (7,874) | 10 | 15 | 10 | 10,00 | 80 | 31 | A 764108 | A 765108 |
| Rated voltage 350 V | | | | | | | | | | | | |
| 1500 | 51 | (2,008) | 104 | (4,094) | 45 | 68 | 50 | 1,05 | 25 | 8 | A 764020 | A 765020 |
| 2200 | 51 | (2,008) | 144 | (5,669) | 25 | 38 | 23 | 1,50 | 25 | 12 | A 764021 | A 765021 |
| 3300 | 51 | (2,008) | 144 | (5,669) | 23 | 35 | 22 | 2,30 | 25 | 13 | A 764023 | A 765023 |
| 3300 | 66 | (2,598) | 104 | (4,094) | 25 | 38 | 28 | 2,30 | 45 | 12 | A 764022 | A 765022 |
| 4700 | 77 | (3,031) | 104 | (4,094) | 20 | 30 | 25 | 3,30 | 56 | 15 | A 764024 | A 765024 |
| 5600 | 77 | (3,031) | 104 | (4,094) | 18 | 27 | 22 | 3,90 | 59 | 16 | A 764027 | A 765027 |
| 6800 | 77 | (3,031) | 144 | (5,669) | 16 | 25 | 20 | 4,50 | 60 | 19 | A 764025 | A 765025 |
| 10000 | 77 | (3,031) | 220 | (8,661) | 10 | 16 | 14 | 5,00 | 60 | 29 | A 764026 | A 765026 |
| 15000 | 90 | (3,543) | 200 | (7,874) | 8 | 12 | 10 | 8,00 | 80 | 34 | A 764028 | A 765028 |
| Rated voltage 400 V | | | | | | | | | | | | |
| 1000 | 51 | (2,008) | 81 | (3,189) | 75 | 100 | 70 | 0,80 | 21 | 6 | A 764049 | A 765049 |
| 1500 | 51 | (2,008) | 104 | (4,094) | 65 | 85 | 60 | 1,20 | 25 | 7 | A 764040 | A 765040 |
| 2200 | 51 | (2,008) | 144 | (5,669) | 56 | 80 | 65 | 1,80 | 25 | 8 | A 764041 | A 765041 |
| 2200 | 66 | (2,598) | 104 | (4,094) | 42 | 63 | 45 | 1,80 | 35 | 9 | A 764042 | A 765042 |
| 3300 | 66 | (2,598) | 104 | (4,094) | 37 | 56 | 42 | 2,70 | 38 | 10 | A 764043 | A 765043 |
| 4700 | 77 | (3,031) | 104 | (4,094) | 25 | 38 | 30 | 3,80 | 50 | 13 | A 764044 | A 765044 |
| 4700 | 77 | (3,031) | 144 | (5,669) | 13 | 21 | 17 | 3,80 | 60 | 21 | A 764048 | A 765048 |
| 6800 | 77 | (3,031) | 144 | (5,669) | 12 | 20 | 16 | 5,50 | 60 | 22 | A 764045 | A 765045 |
| 8200 | 77 | (3,031) | 220 | (8,661) | 15 | 23 | 18 | 6,60 | 60 | 24 | A 764046 | A 765046 |
| 10000 | 77 | (3,031) | 220 | (8,661) | 14 | 21 | 17 | 8,00 | 60 | 25 | A 764050 | A 765050 |
| 10000 | 90 | (3,543) | 144 | (5,669) | 12 | 19 | 15 | 8,00 | 80 | 24 | A 764047 | A 765047 |
| 15000 | 90 | (3,543) | 200 | (7,874) | 11 | 19 | 14 | 13,00 | 80 | 29 | A 764051 | A 765051 |
| Rated voltage 450 V | | | | | | | | | | | | |
| 1500 | 51 | (2,008) | 104 | | 75 | 120 | 85 | 4,00 | 23 | 6 | A 764060 | A 765060 |
| 2200 | 66 | (2,598) | 104 | | 50 | 75 | 60 | 5,90 | 32 | 9 | A 764062 | A 765062 |
| 3300 | 77 | (3,031) | 104 | | 35 | 52 | 42 | 7,30 | 42 | 11 | A 764064 | A 765064 |
| 4700 | 77 | (3,031) | 144 | | 24 | 36 | 29 | 8,70 | 59 | 16 | A 764065 | A 765065 |
| 6800 | 77 | (3,031) | 220 | | 20 | 30 | 24 | 10,00 | 60 | 21 | A 764066 | A 765066 |
| 8200 | 90 | (3,543) | 200 | | 16 | 24 | 19 | 11,00 | 80 | 24 | A 764068 | A 765068 |
| 10000 | 90 | (3,543) | 200 | | 14 | 21 | 17 | 12,70 | 80 | 26 | A 764069 | A 765069 |
| 12000 | 90 | (3,543) | 200 | | 12 | 20 | 15 | 15,00 | 80 | 28 | A 764070 | A 765070 |

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8 000 h / 105°C**PEAK VOLTAGE (V)**

1000 cycles, without ripple current

Up: Repetitive standard peak voltage (30 s)

Us: Repetitive surge voltage (0,1 s)

Do not overstep this value without damage.

| U _R | 160 V | 250 V | 350 V | 400 V | 450 V |
|----------------|-------|-------|-------|-------|-------|
| U _p | 184 | 288 | 385 | 440 | 495 |
| U _s | 235 | 340 | 450 | 495 | 540 |

PERMISSIBLE RIPPLE CURRENT I (R.M.S. VALUE)

versus frequency f

I_~: permissible r.m.s. current at 100 Hz

| f (Hz) | 50 | 100 | 300 | 600 | 1 000 | 10 000 | 50 000 |
|--------|----------------------|----------------|----------------------|----------------------|-----------------------|----------------------|----------------------|
| I | 0,8 x I _~ | I _~ | 1,2 x I _~ | 1,3 x I _~ | 1,35 x I _~ | 1,5 x I _~ | 1,6 x I _~ |

PERMISSIBLE REPETITIVE PEAK CURRENT I_p:

If given corresponding max r.m.s. currents are not exceeded, peak current values are as follows:

| DIMENSIONS in mm (inches) | | | | I _p (A) | | I _~ max. (A) |
|---------------------------|---------|-----|---------|--------------------|-------|----------------------------|
| Ø | H | | | 40°C | 105°C | |
| 51 | (2,008) | 81 | (3,189) | 800 | 400 | 25 |
| 51 | (2,008) | 104 | (4,094) | 1100 | 500 | 25 |
| 51 | (2,008) | 144 | (5,669) | 1300 | 600 | 25 |
| 66 | (2,598) | 104 | (4,094) | 1900 | 800 | 50 |
| 77 | (3,031) | 104 | (4,094) | 3100 | 1200 | 60 |
| 77 | (3,031) | 144 | (5,669) | 4200 | 1800 | 60 |
| 77 | (3,031) | 220 | (8,661) | 5700 | 2400 | 60 |
| 90 | (3,543) | 144 | (5,669) | 5700 | 2400 | 80 |
| 90 | (3,543) | 200 | (7,874) | 7700 | 3200 | 80 |

EXPECTED LIFE

As a function of temperature and ripple current

CONNECTIONS IN SERIES:

Operating voltages exceeding 500 V up to 20000 V will be reached by connecting capacitors with rated voltages higher or equal to 350 V in series (see FELSIC in bank).

