

**FELSIC 105 LP****BC**

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**8 000 h / 105°C**

|              |                                  |   |                |                |
|--------------|----------------------------------|---|----------------|----------------|
| 10V ... 450V | 1500 $\mu$ F ... 220 000 $\mu$ F | $\emptyset$ 90 (3,543) ... H 67 (2,638) | - 55°C + 105°C | Long Life Time |
|--------------|----------------------------------|---|----------------|----------------|

**APPLICATIONS**

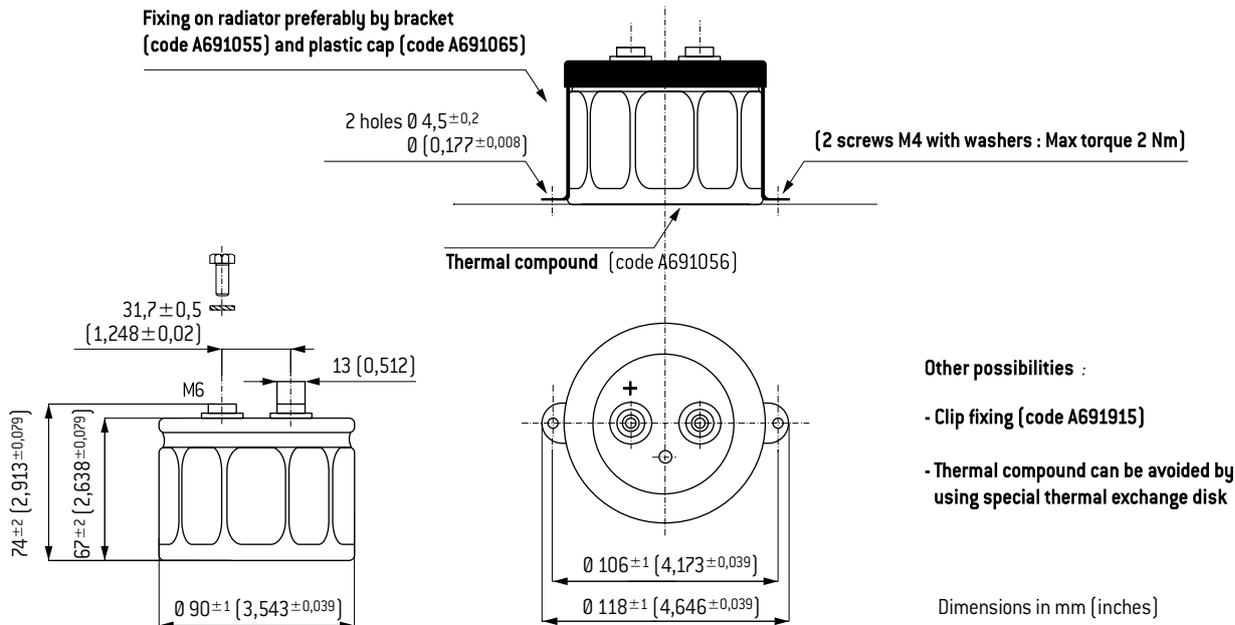
- Power electronics: converters, current inverters
- Switch mode power supplies
- Magnetization, welding machines, flash
- Circuit with high impulse current

Fixing: Clip or stud fixing

Screw terminals: M6

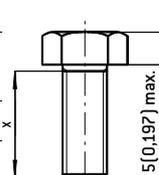
Tolerance on capacitance at 20°C: -10 +30 %

Operating temperature: - 55°C +105°C

**HEXAGONAL SCREWS mm (inches)**

Screwing height between screws and terminals:  
2 (0,079) max

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

**RESISTANCE TO VIBRATIONS**

|              | Standard                   |
|--------------|----------------------------|
| f (Hz)       | 10 - 55 Hz                 |
| Amplitude    | 0,75 (0,030)               |
| Acceleration | 10 g - 98 m/s <sup>2</sup> |
| t (h)        | 3 x 2 h                    |

**SPECIFICATIONS**

NFC 83 110 - Long life

DIN 40 040 - Climatic category FMD - 55°C + 105°C / 56 days

CECC 30 300 - Long life

IEC 60 384.4 - Long life

Standard endurance test at U<sub>R</sub>: 2000 h / 105°C  
5000 h / 85°C

**WITHSTAND STRENGTH OF INSULATING SLEEVE**

Insulation resistance at 20°C between terminals  
and mounting hardware: 100 M $\Omega$

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)

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8 000 h / 105°C

| Rated voltage<br>(V) | Capacitance<br>( $\mu$ F) | Can                        |                  | ESR<br>100 Hz +20°C    |                       | Z<br>+20°C 10<br>kHz<br>max.<br>( $m\Omega$ ) | I<br>+20°C 5<br>min.<br>max.<br>(mA) | I $\sim$          |               | Code     |
|----------------------|---------------------------|----------------------------|------------------|------------------------|-----------------------|---|--------------------------------------|-------------------|---------------|----------|
|                      |                           | $\emptyset$<br>mm (inches) | H<br>mm (inches) | Typic<br>( $m\Omega$ ) | max.<br>( $m\Omega$ ) |   |                                      | +40°C max.<br>(A) | +105°C<br>(A) |          |
| 10                   | 220000                    | 90 (3,543)                 | 67 (2,638)       | 4                      | 5                     | 5   | 5                                    | 150               | 61            | A 756032 |
| 16                   | 150000                    | 90 (3,543)                 | 67 (2,638)       | 5                      | 8                     | 8   | 5                                    | 150               | 55            | A 756057 |
| 25                   | 100000                    | 90 (3,543)                 | 67 (2,638)       | 6                      | 9                     | 9   | 5                                    | 150               | 50            | A 756099 |
| 40                   | 68000                     | 90 (3,543)                 | 67 (2,638)       | 7                      | 11                    | 11  | 6                                    | 150               | 46            | A 756138 |
| 63                   | 33000                     | 90 (3,543)                 | 67 (2,638)       | 10                     | 15                    | 13  | 6                                    | 146               | 39            | A 756178 |
| 63                   | 47000                     | 90 (3,543)                 | 67 (2,638)       | 7                      | 11                    | 9   | 6                                    | 150               | 46            | A 756180 |
| 100                  | 15000                     | 90 (3,543)                 | 67 (2,638)       | 12                     | 20                    | 16  | 6                                    | 131               | 35            | A 756215 |
| 160                  | 6800                      | 90 (3,543)                 | 67 (2,638)       | 14                     | 21                    | 18  | 6                                    | 100               | 27            | A 756254 |
| 250                  | 3300                      | 90 (3,543)                 | 67 (2,638)       | 19                     | 29                    | 23  | 6                                    | 86                | 23            | A 756295 |
| 350                  | 2200                      | 90 (3,543)                 | 67 (2,638)       | 30                     | 45                    | 35  | 6                                    | 68                | 18            | A 756336 |
| 350                  | 3300                      | 90 (3,543)                 | 67 (2,638)       | 25                     | 38                    | 30  | 6                                    | 75                | 20            | A 756339 |
| 400                  | 2200                      | 90 (3,543)                 | 67 (2,638)       | 40                     | 60                    | 45  | 6                                    | 60                | 16            | A 756373 |
| 450                  | 1500                      | 90 (3,543)                 | 67 (2,638)       | 45                     | 68                    | 48  | 6                                    | 56                | 15            | A 756412 |
| 450                  | 2000                      | 90 (3,543)                 | 67 (2,638)       | 40                     | 60                    | 50  | 6                                    | 60                | 16            | A 756415 |
| 450                  | 2200                      | 90 (3,543)                 | 67 (2,638)       | 30                     | 44                    | 35  | 6                                    | 68                | 18            | A 756416 |

## 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.

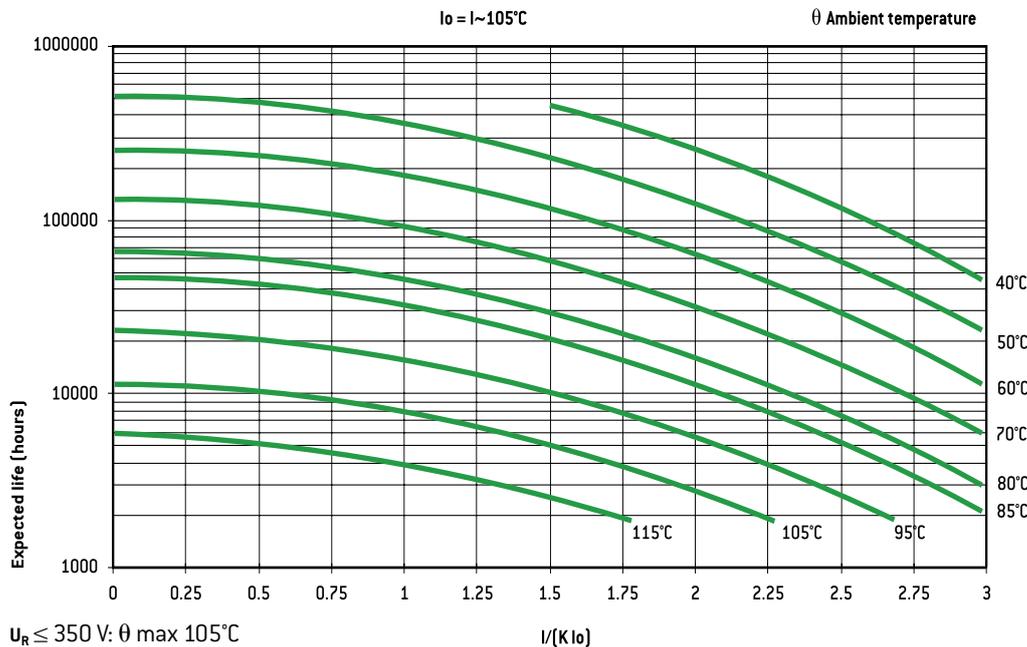
| U <sub>R</sub> | 10 V | 16 V | 25 V | 40 V | 63 V | 100 V | 160 V | 250 V | 350 V | 400 V | 450 V |
|----------------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|
| Up             | 11,5 | 18   | 29   | 46   | 72   | 115   | 184   | 288   | 385   | 440   | 495   |
| Us             |      |      |      |      |      |       | 235   | 340   | 450   | 495   | 540   |

## MAXIMUM PERMISSIBLE RIPPLE CURRENT 150 A

For r.m.s. current above 80 A, standard cover with  $\emptyset$  13 aluminum terminals can be replaced by special cover with  $\emptyset$  18 aluminum terminals, on request.

## EXPECTED LIFE

As a function of temperature and ripple current



## PERMISSIBLE REPETITIVE PEAK CURRENT I<sub>p</sub>:

If given permissible ripple currents are not exceeded, and with a maximum ambient temperature of 40°C

I<sub>p</sub> = 5700 A

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

versus frequency f:

I $\sim$ : 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 $\sim$ | I $\sim$ | 1,2 x I $\sim$ | 1,3 x I $\sim$ | 1,35 x I $\sim$ | 1,5 x I $\sim$ | 1,6 x I $\sim$ |

|                         | Without cooling and without radiator | Air cooling without radiator<br>0,2 - 0,5 m/s | With radiator and thermal compound and without water cooling | With radiator thermal compound and water cooling |
|-------------------------|--------------------------------------|---|--|--|
| K                       | 0,5                                  | 0,6   | 1  | 1,3  |
| Thermal resistance °C/W | 4                                    | 2,5   | 1  | 0,6  |

SCREW TERMINALS