



## Film capacitors - Power Electronic Capacitors

### FilterCap MKD AC

**Series/Type:** B3237X  
**Ordering code:** B32373A5107J530  
**Date:** 2017-10-18  
**Version:** 4

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**Preliminary data**
**Construction**

- Metallized Polypropylene Film
- Non-PCB, Soft Polyurethane resin
- Extruded round aluminium can with stud, Aluminium top cover, DMC lead-through
- Degree of protection:IP20

**Features**

- Safety system:
  - overpressure disconnecter,
  - self healing technology
- Naturally air cooled (or forced air cooling)
- Indoor mounting
- Pollution degree:PD4

**Terminals**

- Screw terminals
  - Nut: M10, Din 934,Stainless steel 304 (max.torque for M10=10 Nm)
  - Washer: M10,Din 125, tin plated Brass



Drawing just for reference

**Mounting**

- Threaded stud M12 at bottom of can (max. torque for M12 = 12 Nm)

| Characteristics      |                    |                  |
|----------------------|--------------------|------------------|
| $C_N$                | 105                | $\mu\text{F}$    |
| Tol.                 | $\pm 5$            | %                |
| $U_{\text{RMS}}$     | 530                | Vac              |
| $U_N$                | 750                | Vac              |
| $I_{\text{max}}^*$   | 33                 | A                |
| $R_s$                | 1.5                | $\text{m}\Omega$ |
| $\text{Tan}\delta_0$ | $2 \times 10^{-4}$ |                  |

\*  $I_{\text{max}}$ =Max. rms current at 50Hz, ambient temperature 70°C, self-heating 15°C.  
Higher  $I_{\text{max}}$  values upon request.

**Preliminary data**

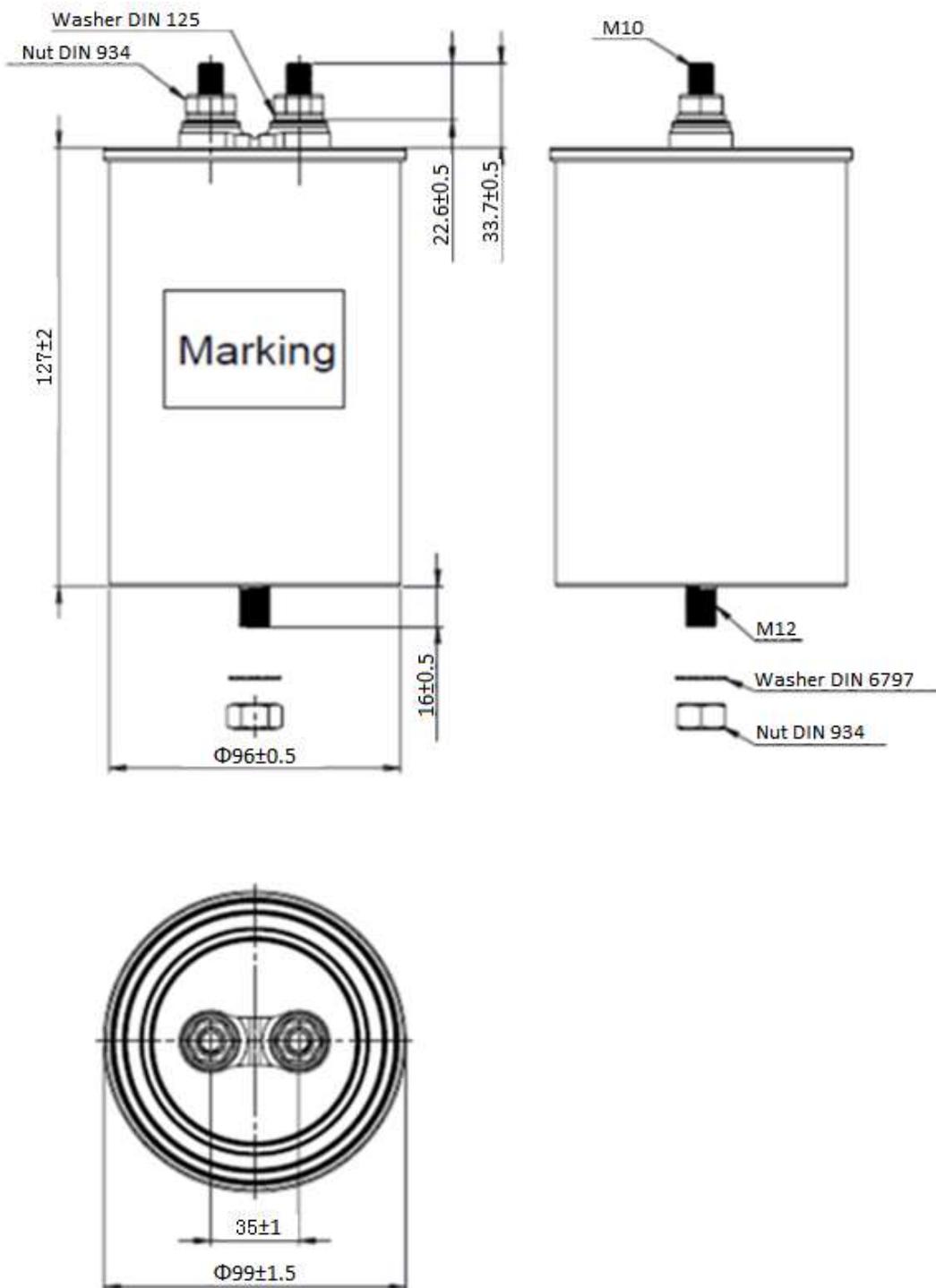
| <b>Maximum ratings</b>              |  |             |     |
|-------------------------------------|--|-------------|-----|
| $I$                                 | 1,433  | A           |     |
| $I_S$                               | 4,300  | A           |     |
| $(du/dt)_{max}$                     | 18.5   | V/ $\mu$ s  |     |
| $(du/dt)_S$                         | 55.6   | V/ $\mu$ s  |     |
| $U_{max}$                           | $1.1 \times U_{RMS}$   | 8hr/day     |     |
|                                     | $1.2 \times U_{RMS}$   | 5min/day    |     |
|                                     | $1.3 \times U_{RMS}$   | 1min/day    |     |
| <b>Test data</b>                    |  |             |     |
| $U_{TT}$                            | 1,140  | Vac         | 2s  |
| $U_{TC}$                            | 4,000  | Vac         | 10s |
| $R_{is} \times C$                   | $\geq 10,000$  | s           |     |
| $\tan \delta_{(1kHz)}$              | $\leq 3.0 \times 10^{-3}$  |             |     |
| $\tan \delta_{(100Hz)}$             | $\leq 1.0 \times 10^{-3}$  |             |     |
| <b>Climatic category (IEC68-1)</b>  |  |             |     |
| $\Theta_{min}$                      | -40  | $^{\circ}C$ |     |
| $\Theta_{max}^{**}$                 | +70  | $^{\circ}C$ |     |
| $\Theta_{HS}$                       | +85  | $^{\circ}C$ |     |
| $\Theta_{stg}$                      | -40...+85  | $^{\circ}C$ |     |
| Average Rel. Humidity               | $\leq 95\%$  |             |     |
| $t_{LD (co)}$                       | 100,000  | h           |     |
| $\alpha_{FQ (co)}$                  | 50   | Fit         |     |
| Max.altitude                        | 2,000  | m           |     |
| <b>General data</b>                 |  |             |     |
| Weight                              | 1.0  | Kg          |     |
| Packing unit                        | 4  | PCS         |     |
| Creepage Distance                   | Min.12.7mm   |             |     |
| Clearance Distance                  | Min.10.0mm   |             |     |
| Mounting position                   | ** Considering mounting positon with terminals to The top.<br>For other mounting position, please Request evaluation |             |     |
| <b>Safety</b>                       |  |             |     |
| Mechanical safety***                | Overpressure disconnecter  |             |     |
| Max. short circuit current          | 10k AFC  |             |     |
| <b>Reference standard</b>           |  |             |     |
| IEC 61071, UL 810 5th.edtion        |  |             |     |
| <b>Certification</b>                |  |             |     |
| UL file No.E487229,CSA C22.2,No.190 |  |             |     |

\*\*\* When the over pressure disconnecter respond, the capacitor extends up to max.12.7mm, so leave

Preliminary data

sufficient space min. 15mm.

Dimensional drawings



\*\*\*\* Please watch out cascade connections and temperature on terminals to avoid overload

Preliminary data

**Label information**


The Date code and Bar code explanation are following:

'WW Z YYYY', where:

'WW' means production weeks(ex.:25)

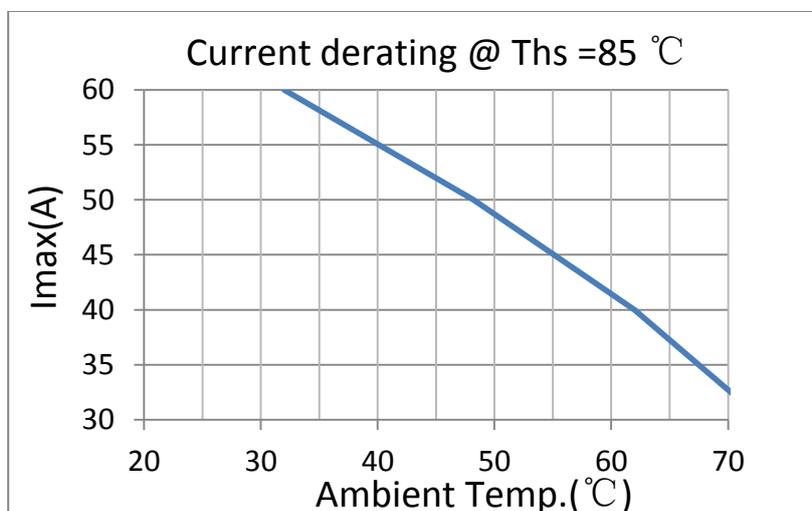
'Z' means Zhuhai (China)

'YYYY' means production years(ex.:2015)

Bar code consists of batch number and serial number.

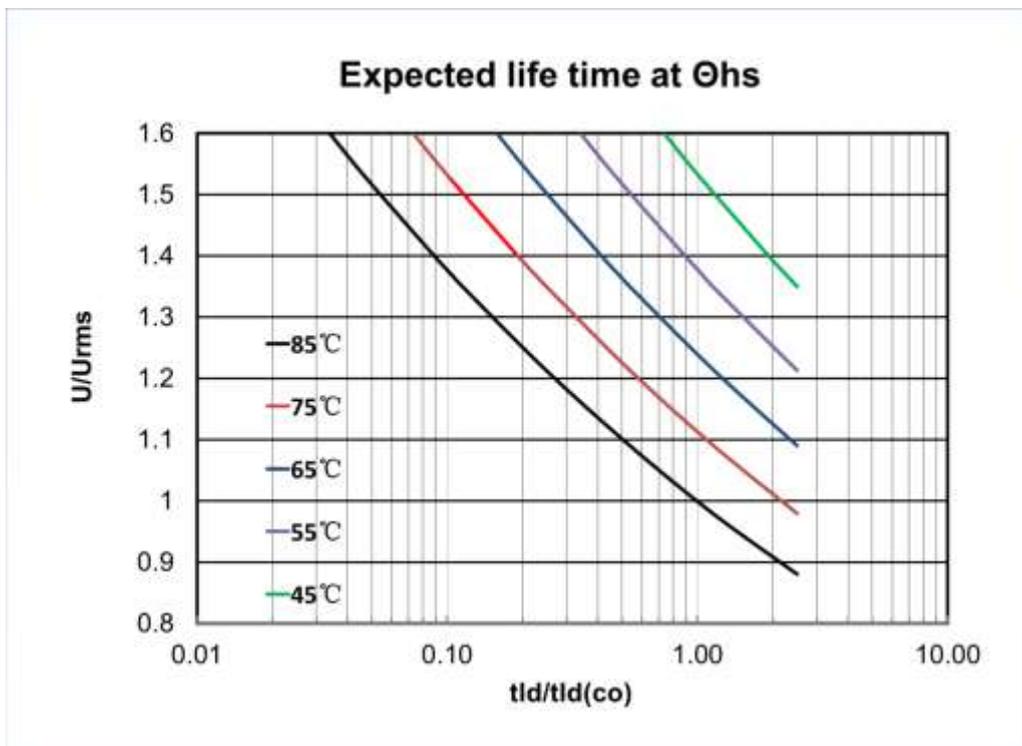
Batch number : 9 digits(ex.:123456789)

Serial number : 3 digits(ex.:001)

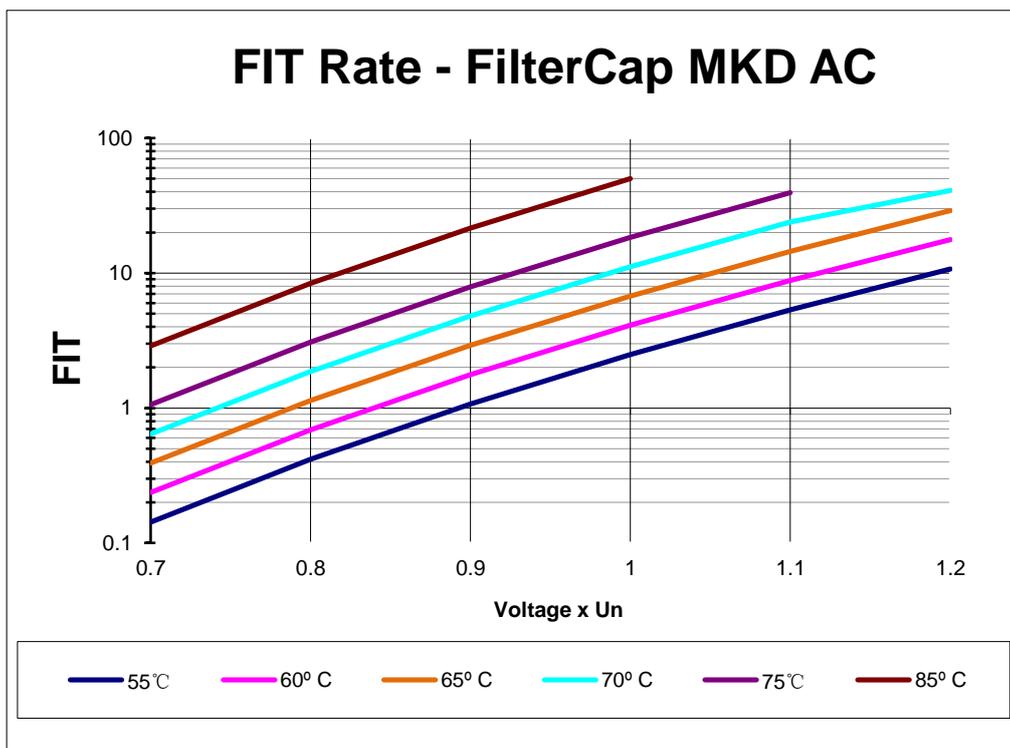
**Expected current derating**


Preliminary data

**Expected Lifetime**



**Expected Fit rate**



## Preliminary data

### Cautions and warnings

- In case of dents of more than 1 mm depth or any other mechanical damage, capacitor must not be used at all.
- Check tightness of the connections / terminals periodically.
- The energy stored in capacitors may be lethal. To prevent any chance of shock, discharge and short-circuit the capacitors before handling.
- Failure to follow cautions may result, worst case, in premature failures, bursting and fire.

### Safety

- Electrical or mechanical misapplication of capacitors may be hazardous. Personal injury or property damage may result from bursting of the capacitor or from expulsion of melted material due to mechanical disruption of the capacitor.
- Ensure good, effective grounding for capacitor enclosures.
- Observe appropriate safety precautions during operation (self-recharging phenomena and the high energy stored in capacitors).
- Handle capacitors carefully, because they may still be charged even after disconnection.
- The terminals of capacitors, connected bus bars and cables as well as other devices may also be energized.
- Follow good engineering practice.
- The maximum allowed fault current (AFC) of 10kA in accordance with UL 810 standard must be assured by the application.

### Thermal load

- After installation of the capacitor it is necessary to verify that maximum hot-spot temperature is not exceeded at extreme service conditions.

### Mechanical protection

- The capacitor has to be installed in a way that mechanical damages and dents in the case are avoided.

### Storage and operating conditions

- Do not use or store capacitors in corrosive atmosphere, especially where chloride gas, sulfide gas, acid, alkali, salt or the like are present. In dusty environments regular maintenance and cleaning especially of the terminals is required to avoid conductive path between phases and/or phases and ground.

### Overpressure disconnector

- To ensure full functionality of an overpressure safety device disconnector, the following must be observed:
  1. The elastic elements must not be hindered, i.e.
    - Connecting lines must be flexible leads (cables)
    - There must be sufficient space (min.15mm) for expansion above the connections
    - Metal cover must not be retained by rigid parts, like: bus bars.
  2. Stress parameters of the capacitor must be within the IEC 61071 specification.

### Service life expectancy

- Electrical components do not have an unlimited service life expectancy; this applies to self-healing capacitors too. The maximum service life expectancy may vary depending on the application the capacitor is used in.

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