



Film capacitors - Power Electronic Capacitors

FilterCap MKD AC – Single phase

Series/Type: B32373 Series
Ordering code: B32373A5137J300
Date: 2017-12-26
Version: 2

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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

Features

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

Terminals

- M10 Screw terminals
Nut: M10, DIN934,
(max. torque for terminals=10Nm),
Washer: M6, DIN125,
- Max.current of terminal 60A

Mounting

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



Drawing just for reference

Characteristics		
C_N	133	µF
Tol.	±5	%
U_{RMS}	500	Vac
U_N	710	Vac
$I_{max}^{(*)}$	60	A
R_s	1.4	mΩ
$Tan\delta_0$	2×10^{-4}	

* Including combined effects of harmonics(≤20kHz), over voltages, capacitance tolerance and hot spot(≤85 °C , ambient temperature 70 °C). Higher I_{max} is possible on request at lower ambient temperatures

Preliminary data

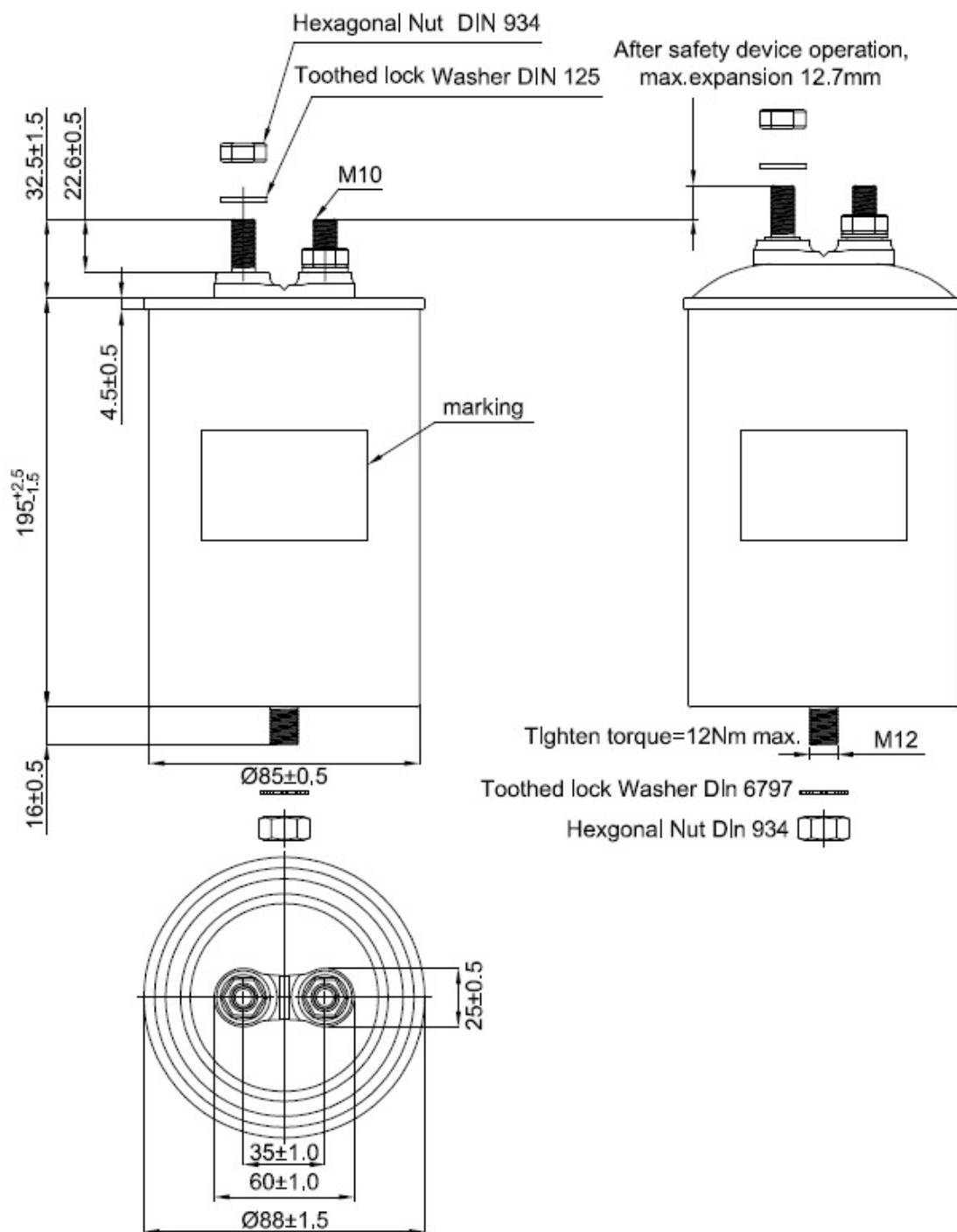
Maximum ratings			
\hat{I}	2,550	A	
I_s	7,650	A	
$(du/dt)_{max}$	19	V/ μ s	
$(du/dt)_s$	57	V/ μ s	
U_{max}	$1.1 \times U_{RMS}$	8hr/day	
	$1.2 \times U_{RMS}$	5min/day	
	$1.3 \times U_{RMS}$	1min/day	
Test data			
U_{TT}	1,075	Vac	2s
U_{TC}	4,000	Vac	10s
$R_{is} \times C$	$\geq 10,000$	s	
$\tan \delta_{(1kHz)}$	$\leq 3.0 \times 10^{-3}$		
$\tan \delta_{(100Hz)}$	$\leq 1.0 \times 10^{-3}$		
Climatic category (IEC68-1)			
Θ_{min}	-40	°C	
Θ_{max}^{**}	+70	°C	
Θ_{HS}	+85	°C	
Θ_{stg}	-40...+85	°C	
Average Rel. Humidity	$\leq 95\%$		
$t_{LD (co)}$	100,000	h	
$\alpha_{FQ (co)}$	50	Fit	
Max.altitude	2,000	m	
General data			
Weight	1.5	Kg	
Packing unit	4	PCS	
Creepage Distance	Min.12.7mm		
Clearance Distance	Min.10.0mm		
Mounting position	** Considering mounting position with terminals to The top. For other mounting position, please Request evaluation		
Safety			
Mechanical safety***	Overpressure disconnecter		
Max.short circuit current	10k AFC		
Reference standard			
IEC 61071, UL810 ed5 th .edition			
Certification			
UL file No.E487229,CSA C22.2,No.190-14			

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

Preliminary data

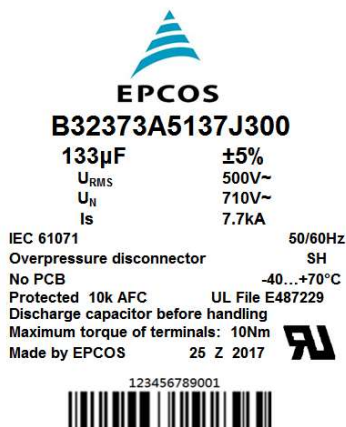
sufficient space min. 15mm above the terminals when mounting the capacitor.

Dimensional drawings



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.:2017)

Bar code consists of batch number and serial number.

Batch number : 9 digits(ex.:123456789)

Serial number : 3 digits(ex.:001)

Expected Lifetime



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 disconnecter

- To ensure full functionality of an overpressure safety device disconnecter, 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.

Important notes

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