



Film Capacitors – Power Electronic Capacitors

PEC MKP DC

Series/Type: B2569x
Ordering code: B25690A1427K101
Date: 2019-5-27
Version: Preliminary1

Preliminary datasheet

Applications

- Wind power, Solar power
- UPS, SVG, APF, Energy storage
- Motor driver systems, Frequency drives
- EV / HEV, Locomotive traction

Features

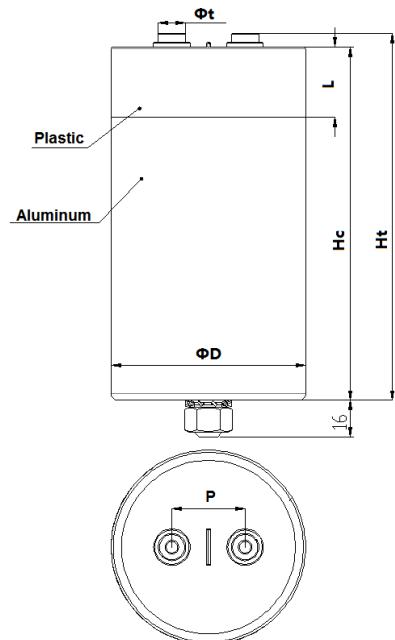
- Low ESR, Low ESL, Low Losses
- High ripple current, High capacitance density
- Self-healing property, High reliability, Long lifetime
- Naturally air cooling or forced air cooling
- UL810(Construction) Approved, File E502394
- RoHS Compliance

Construction

- Metallized polypropylene film
- Non-PCB, Hard polyurethane resin
- Extruded round aluminum can with stud



Reference only

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Dimensional drawings


Item	Dimension	Unit
ØD	85±0.5	mm
Hc	135	mm
Ht	141±1.5	mm
L	10	mm
Terminals	M6 x10	mm
Øt	12±0.3	mm
P	32±0.5	mm
Fixing Nut	M12 x 6	mm

General technical data

Voltage between terminals V_{TT} , (10 s)	1.5 V_{RDC}	V_{DC}
Voltage between terminals and Case V_{TC} , (10s)	$\sqrt{2}V_{RDC}+1000$ or 4000 ¹⁾	V_{AC}
Dielectric dissipation factor $\tan \delta_0$	$2 \cdot 10^{-4}$	
Storage temperature range	-40 ... +85	°C
Operation ambient temperature range ($T_{hs} \leq 85^\circ\text{C}$)	-40 ... +85	°C
Max. temperature allowed at the capacitors hot spot T_{hs}	85	°C
Max. permissible altitude (above sea level)	2000	m
Life expectancy (@ $V_{RDC}/T_{hs}=75^\circ\text{C}$)	100,000	h
Climatic Category	40/85/56	
Reference standard	IEC 61071, UL810	

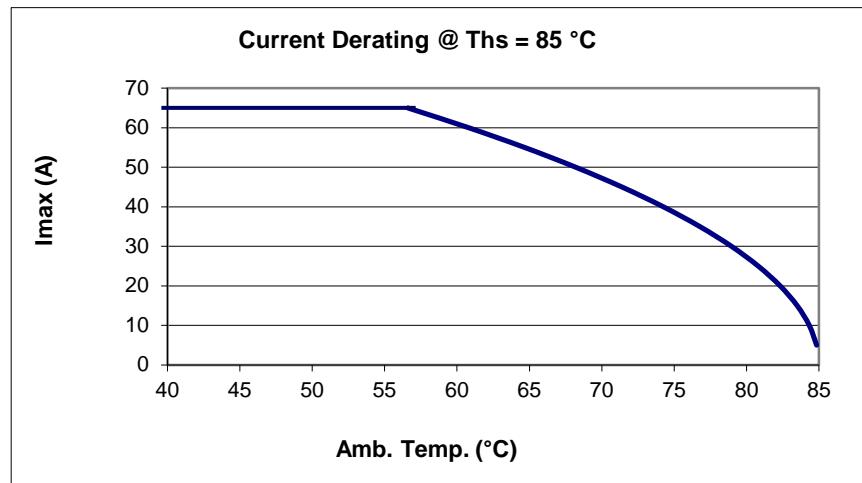
1): Whichever is the highest value

C_R uF	Tol. ±10%	V_{RDC} V_{DC}	I_{MAX}^* A_{rms}	L_{self} nH	R_{TH} K/W	$ESR_{(typical)}$ mΩ	$\tan \delta$ (100Hz)	Weight kg
420	±10%	1100	65	≤40	2.8	2.4	≤1.0	1.0

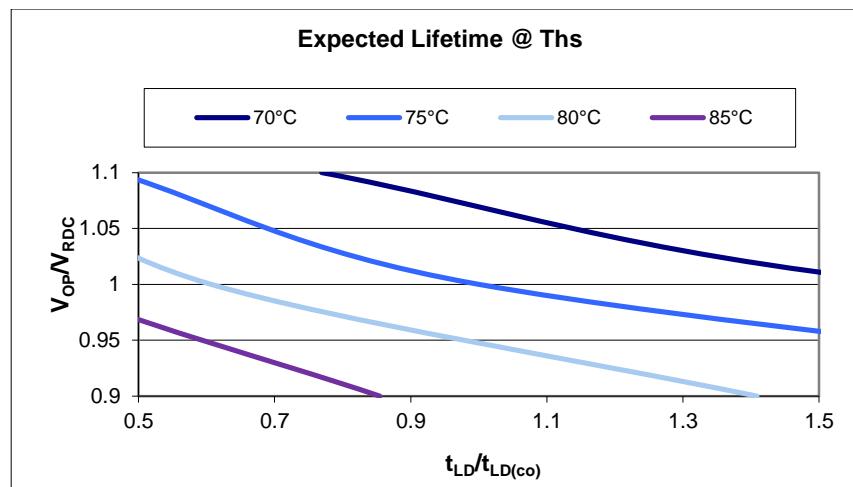
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*Current de-rating according to maximum temperature

$T_{hs} = + 85^{\circ}\text{C}$ (Altitude $\leq 2000\text{m}$)

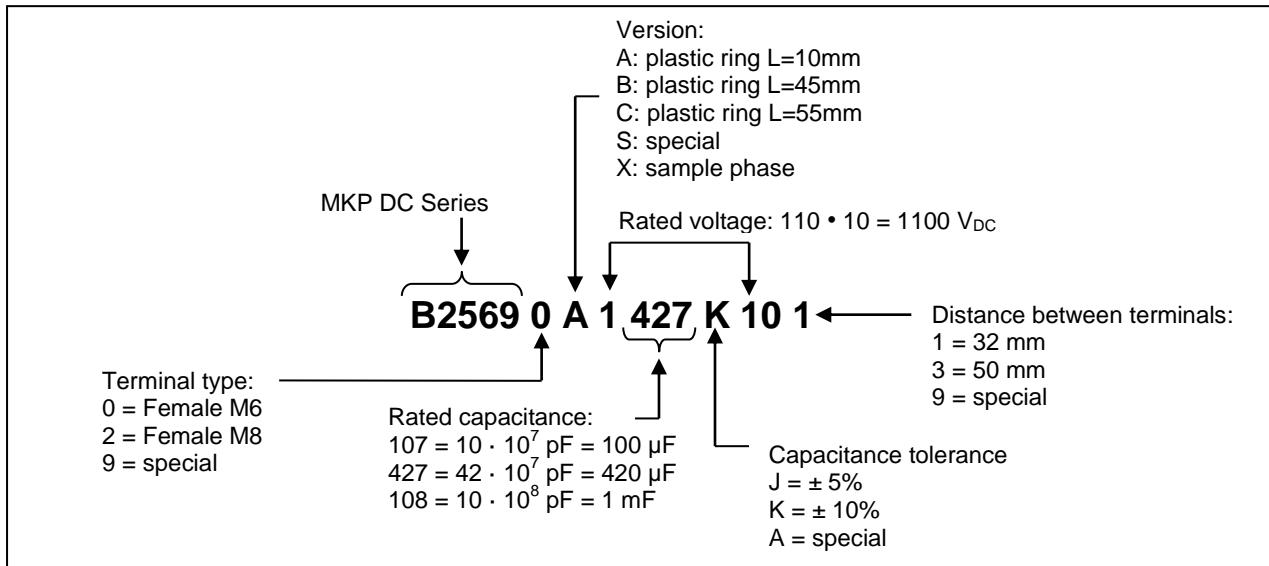


Expected lifetime

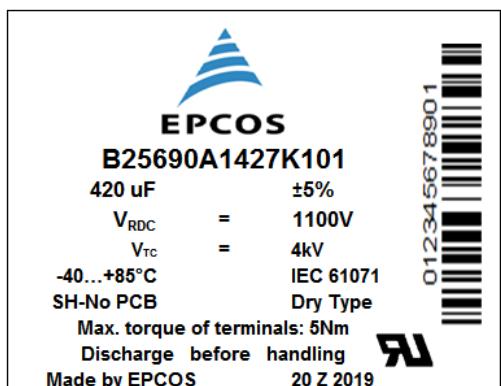


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Structure of ordering code



Label information (Reference only)



Date code explanation

WW Z YYYY

WW Z YYYY: production weeks (ex.: 20)

WW Z YYYY: produced in Zhuhai (China)

WW Z YYYY: production year (ex.: 2019)

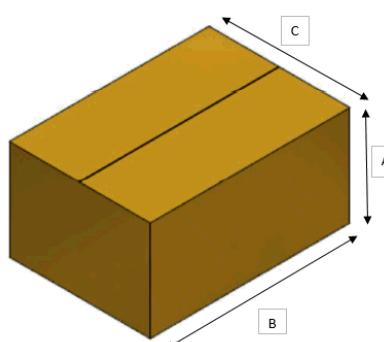
Bar code explanation

Bar code consists of batch number and serial number.

Batch number: 9 digits (ex.: 012345678)

Serial number: 3 digits (ex.: 901)

Packing information



Packing unit: 12 pieces per box

Typical dimensions:

A: 465mm;
B: 355mm;
C: 205mm;

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Cautions and warnings

- In case of dents of more than 1 mm depth or any other mechanical damage, capacitors 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 capacitor before handling.
- Failure to follow cautions may result, worst case, in premature failures, bursting and fire.
- Protect the capacitor properly against over current and short circuit.
- TDK Electronics is not responsible for any kind of possible damages to persons or things due to improper installation and application of capacitors for power electronics.

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 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 contained 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.

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 aluminum can 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.

Preliminary datasheet**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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Important notes

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Release 2018-10

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