

FFLP RANGE

Capacitor for Power Electronics

Preliminary data sheet



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FFLP

Applications

High and medium power DC filtering applications .

Technology

Metallized polypropylene film with controlled self healing process .
Dry capacitor .

Presentation

Rectangular resin filled aluminium case .
4 x M10 terminals .

Electrical characteristics

Climatic category : 40/085/56 (IEC 68) .
Working temperature : hot spot temperature : - 40 to + 85°C .
hot spot temperature 85°C (must be calculated : see page up) .

Capacitance range : C = 1900 µF to 6600 µF .
Tolerance : ± 10% .

Rated dc voltage : $U_{ndc} = 600$ to 900 V .

Maximum overvoltage, peak value : $U_s = 2 \times U_{ndc}$ 100 ms, 1 time per week .
1.5 x U_{ndc} 100 ms, 1 time per day .
1.3 x U_{ndc} 1 mn per day .
1.1 x U_{ndc} 1 h per day .

Maximum rms current : $I_{rms\ max} = 170$ to 300 Arms .

Stray inductance : 30 to 38 nH .

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Test voltage between terminals : 1.5 x Undc 10 s .
 Test voltage between terminals and case : 4000 Vrms 50 Hz 60 s .

Standards

- IEC 1071-1, IEC 1071-2 : Power electronic capacitors .
- IEC 68 -1 : Environmental testing .
- IEC 77 : Rules for electric traction equipment .
- UL 94 : fire requirements .

Hot spot temperature calculation

$$\text{Hot spot} = \theta_{\text{ambient}} + (P_d + P_c) \times R_{th}$$

with

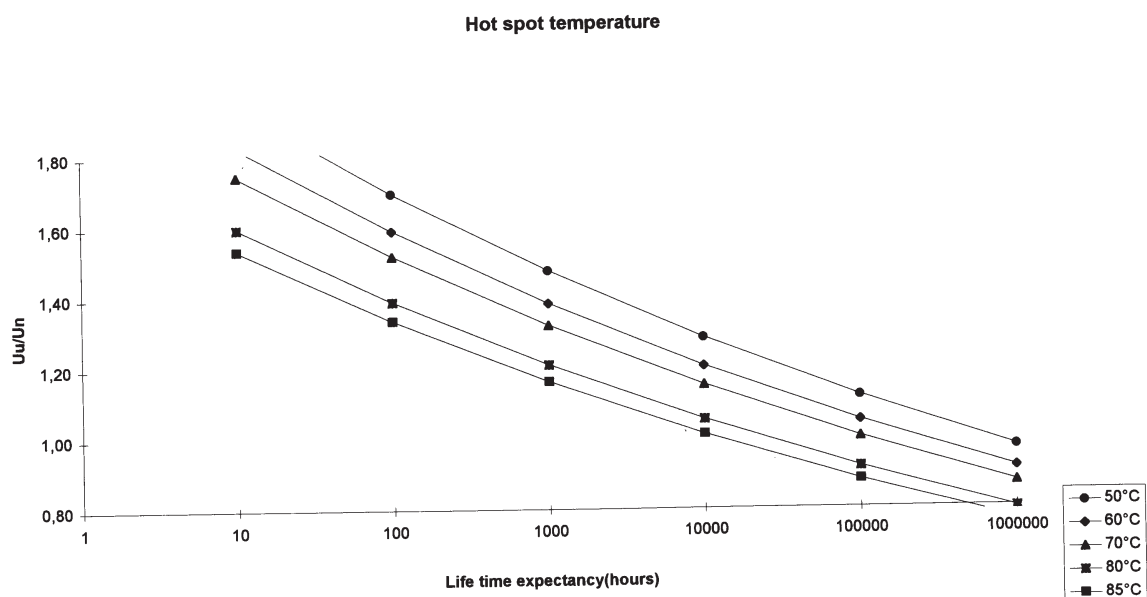
$$P_d \text{ (Dielectric losses)} = Q \times \text{tg}\delta \text{ @ } [1/2 \times C \times (U_{\text{peak to peak}})^2 \times Fr] \times 2 \cdot 10^{-4}.$$

$$P_c \text{ (Joule losses)} = R_s \times (I_{rms})^2 .$$

Life time expectancy

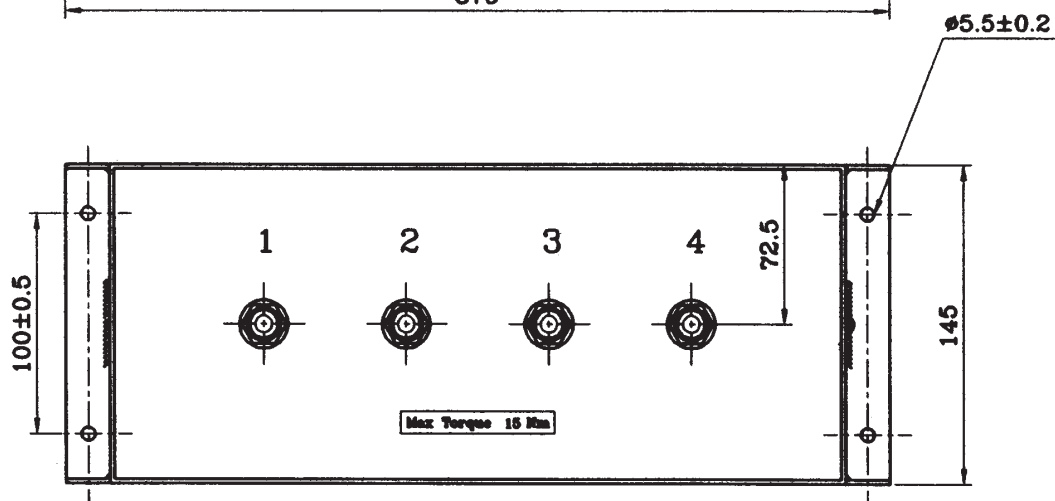
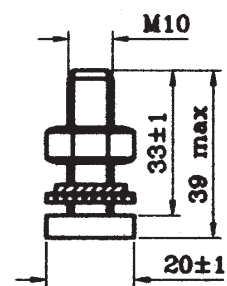
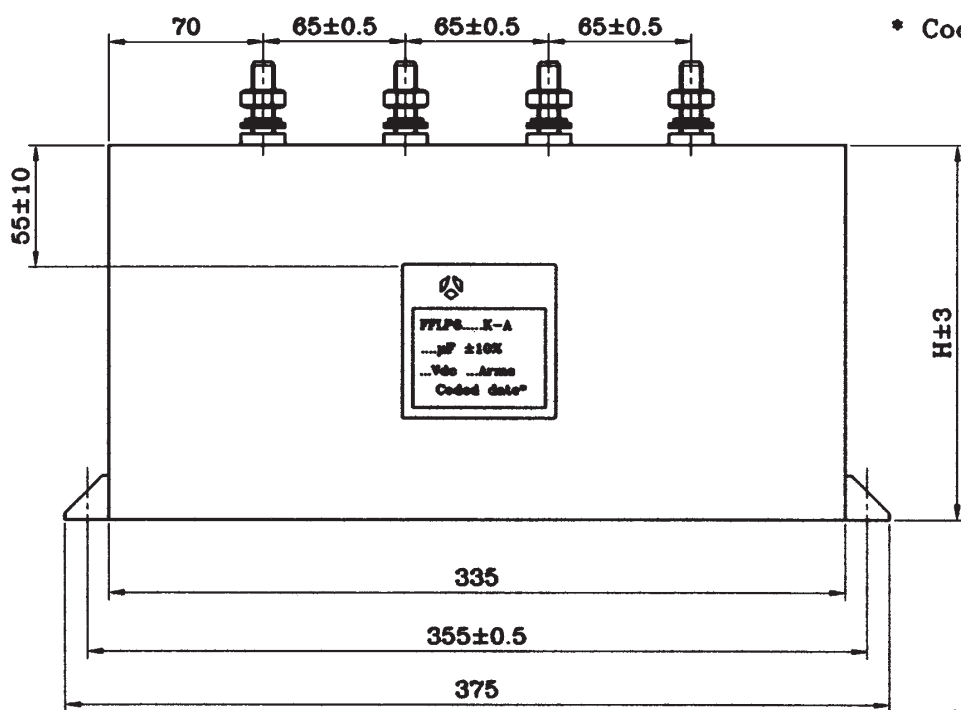
One unique feature of this technology (as opposed to electrolytics) is how the capacitor reacts at the end of its lifetime .

Whereas with an electrolytic there is a strong risk of explosion of the can, our film capacitor experience a loss of capacitance of about 5 %, with no risk of explosion, and of course even with this loss of capacitance our capacitor continues to be functional.



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* Coded date according to IEC62



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Undc : 600V

Cn μF	Height mm	I _{rms} A	I ² _t A ² s	R _s mOhm	R _{th} °C / W	L _s nH	Weight kg	Reference
6600	240	300	6655	0,19	2.2	38	15.5	FFLP6K6607K-A
4200	170	200	2695	0,28	3.3	30	11.3	FFLP6K4207K-A

Undc : 750V

Cn μF	Height mm	I _{rms} A	I ² _t A ² s	R _s mOhm	R _{th} °C / W	L _s nH	Weight kg	Reference
4300	240	300	4356	0.23	2.2	38	15.5	FFLP6A4307K-A
2730	170	200	1764	0.34	3.3	30	11.3	FFLP6A2737K-A

Undc : 900V

Cn μF	Height mm	I _{rms} A	I ² _t A ² s	R _s mOhm	R _{th} °C / W	L _s nH	Weight kg	Reference
3000	240	300	3025	0.27	2.2	38	15.5	FFLP6C3007K-A
1900	170	170	1225	0.41	3.3	30	11.3	FFLP6C1907K-A

NOTES

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