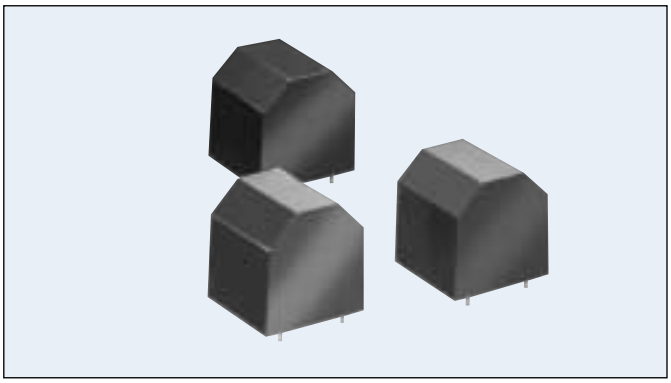
Medium Power Film Capacitors

FAV General Description

TUNING



APPLICATIONS

High reactive energy tuning for convertors.

Protection of semi-conductors.

TECHNOLOGY

Metallized polypropylene film and metal foil.

Dry capacitor.

PACKAGING

Rectangular resin case.

4 leads 1.2 x 0.8mm for printed circuit board mounting.

Self-extinguishing plastic case (V0 = in accordance with UL 94) filled thermosetting resin.

Self-extinguishing thermosetting resin (V0 = in accordance with UL 94; M2F1 = in accordance with NF F 16-101).

(Note that FFV3 and FAV3 are in the same packaging.)

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 below)
Capacitance range C_n	80 to 1200nF
Tolerance	±10%
Rated AC voltage	$V_n$rms = 300 to 650 V
Rated DC voltage	$V_n$dc = 600 to 2000 V
Maximum rms current	Irms max = 10 to 40 Arms
Maximum reactive power	Q max = 7 to 14 kvar
Stray inductance	15 nH
Test voltage between terminals	1.5 x $V_n$dc 10s
Withstanding voltage between terminals and case	3000 Vrms 60s

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

NF F 16-101

NF F 16-102: Fire and smoke requirements

HOT SPOT TEMPERATURE CALCULATION

$\theta_{hot\ spot} = \theta_{case} + (P_d + P_t) \times R_{th}$

with P_d (Dielectric losses) = $Q \times tg\delta_0$

$\Rightarrow [\frac{1}{2} \times C \times (V_{peak\ to\ peak})^2 \times fr] \times 2.10^{-4}$

$\Rightarrow$ Protections applications

$\Rightarrow (V^2 \times C \times 2 \pi Fr) \times 2.10^{-4}$

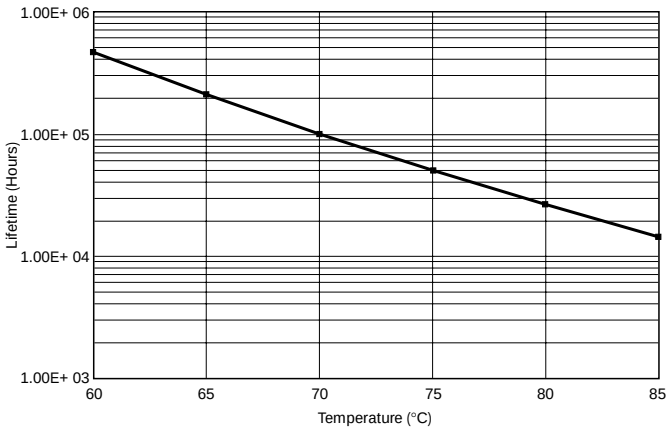
$\Rightarrow$ Tuning applications

Pc (Joule losses) = $R_s \times (I_{rms})^2$

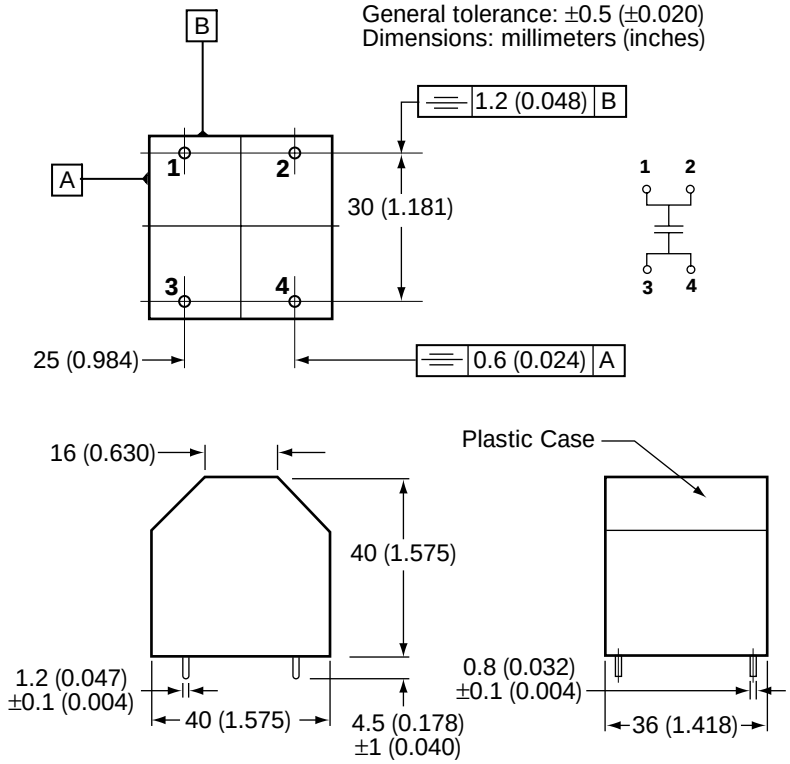
where

Q in Var R_s in Ohm R_{th} in °C/W

LIFETIME EXPECTANCY



TUNING



Cn (nF)	I rms max (A)	Q max (kV)	Rs (mΩ)	Ls (nH)	Rth (°C/W)	Part Number
$V_n$dc 600 V	**Vrms: 300 V**					
1200	40	12	0.85	5	4	FAV36K0125K--
1000	32	10	1	5	4.1	FAV36K0105K--
$V_n$dc 800 V	**Vrms: 400 V**					
800	35	14	0.9	5	4	FAV36B0804K--
620	27	11	1.1	5	4.1	FAV36B0624K--
$V_n$dc 1000 V	**Vrms: 450 V**					
560	30	14	1	5	4	FAV36L0564K--
470	25	12	1.2	5	4.1	FAV36L0474K--
$V_n$dc 1200 V	**Vrms: 500 V**					
330	21	11	1.4	5	4.2	FAV36U0334K--
270	17	9	1.7	5	4.4	FAV36U0274K--
$V_n$dc 1500 V	**Vrms: 600 V**					
180	16	10	1.7	5	4.4	FAV36R0184K--
150	13	8	2	5	4.5	FAV36R0154K--
$V_n$dc 2000 V	**Vrms: 650 V**					
120	15	10	1.92.2	5	4.6	FAV36N0124K--
100	12	8	2.8	5	4.9	FAV36N0104K--
80	10	7	1.5	5	5.2	FAV36N0803K--