

Medium Power Film Capacitors

FAV (RoHS Compliant)



TUNING



APPLICATIONS

High reactive energy tuning for converters.
 Protection of semi-conductors.

TECHNOLOGY

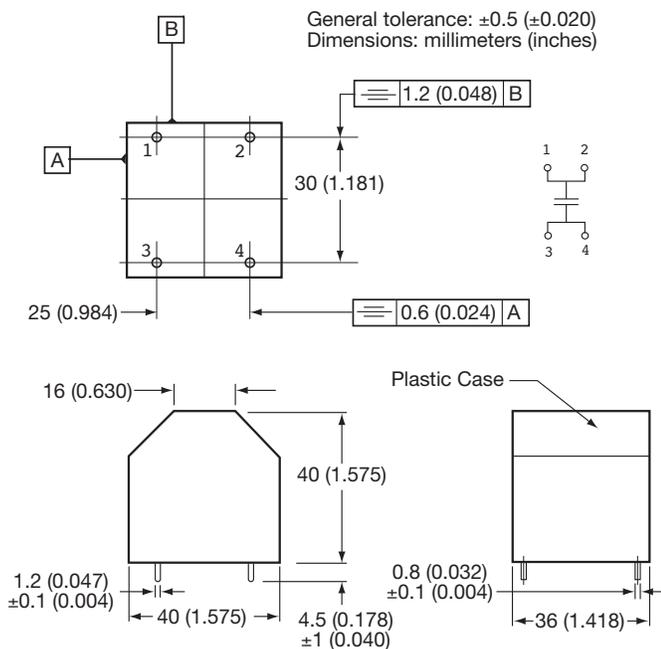
Metallized polypropylene film and metal foil.
 Dry capacitor.

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; I3F2 = in accordance with NF F 16-101).
 (Note that FFV3 and FAV3 are in the same packaging.)

DIMENSIONS

Case Size 3



STANDARDS

- IEC 61071-1: IEC 61071-2: Power electronic capacitors
- IEC 60068-1: Environmental testing
- IEC 60077: 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

$$\theta_{\text{hot spot}} = \theta_{\text{ambient}} + (P_d + P_t) \times (R_{\text{th}} + 7.4)$$

with P_d (Dielectric losses) = $Q \times \text{tg}\delta_0$
 $\Rightarrow [\frac{1}{2} \times C \times (V_{\text{peak to peak}})^2 \times \text{fr}] \times 2 \cdot 10^{-4}$
 \Rightarrow Protections applications
 $\Rightarrow (V^2 \times C \times 2 \pi \text{Fr}) \times 2 \cdot 10^{-4}$
 \Rightarrow Tuning applications
 P_c (Joule losses) = $R_s \times (I_{\text{rms}})^2$

where

Q in Var R_s in Ohm R_{th} in °C/W

HOW TO ORDER

FAV	3	6	K	0125	K	--
Series	Case Size Case Size 3	Dielectric 6 = Polypropylene	Voltage Code K = 600Vdc B = 800Vdc L = 1000Vdc U = 1200Vdc R = 1500Vdc N = 2000Vdc	Capacitance Code 0 + pF code 0125 = 1.2µF (1200nF) 0105 = 1.0µF (1000nF) 0154 = 0.15µF (150nF) etc.	Capacitance Tolerances K = ±10%	Terminal Code -- = Standard



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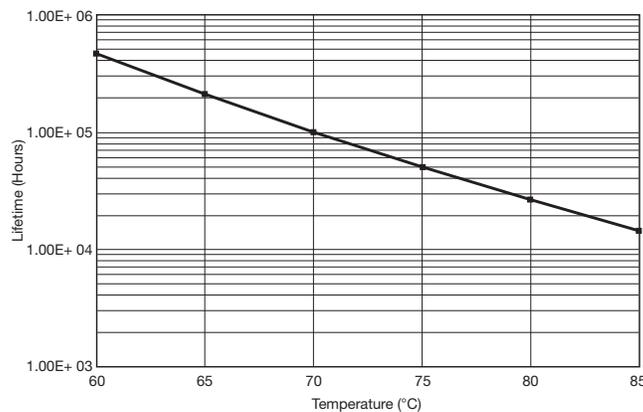
ELECTRICAL CHARACTERISTICS

Climatic category	40/085/56 (IEC 60068)
Working temperature	hot spot temperature: -40°C 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	$V_{nrms} = 300$ to 650 V
Rated DC voltage	$V_{ndc} = 600$ to 2000 V
Maximum rms current	$I_{rms\ max} = 10$ to 40 Arms
Maximum reactive power	$Q\ max = 7$ to 14 kvar
Stray inductance	15 nH
Test voltage between terminals	$1.5 \times V_{ndc}$ 10s
Withstanding voltage between terminals and case	3000 Vrms 60s
Dielectric	Polypropylene

RATINGS AND PART NUMBER REFERENCE

Part Number	Capacitance (nF)	$I_{rms\ max}$ (A)	$Q\ max$ (kV)	R_s (mΩ)	L_s (nH)	R_{th} (°C/W)	Typical Weight (g)
V_{ndc} 600V V_{rms}: 300V							
FAV36K0125K--	1200	40	12	0.85	5	4	90
FAV36K0105K--	1000	32	10	1	5	4.1	90
V_{ndc} 800V V_{rms}: 400V							
FAV36B0804K--	800	35	14	0.9	5	4	90
FAV36B0624K--	620	27	11	1.1	5	4.1	90
V_{ndc} 1000V V_{rms}: 450V							
FAV36L0564K--	560	30	14	1	5	4	90
FAV36L0474K--	470	25	12	1.2	5	4.1	90
V_{ndc} 1200V V_{rms}: 500V							
FAV36U0334K--	330	21	11	1.4	5	4.2	90
FAV36U0274K--	270	17	9	1.7	5	4.4	90
V_{ndc} 1500V V_{rms}: 600V							
FAV36R0184K--	180	16	10	1.7	5	4.4	90
FAV36R0154K--	150	13	8	2	5	4.5	90
V_{ndc} 2000V V_{rms}: 650V							
FAV36N0124K--	120	15	10	1.7	5	4.6	90
FAV36N0104K--	100	12	8	1.9	5	4.9	90
FAV36N0803K--	80	10	7	2	5	5.2	90

LIFETIME EXPECTANCY



TUNING