

# Medium Power Film Capacitors



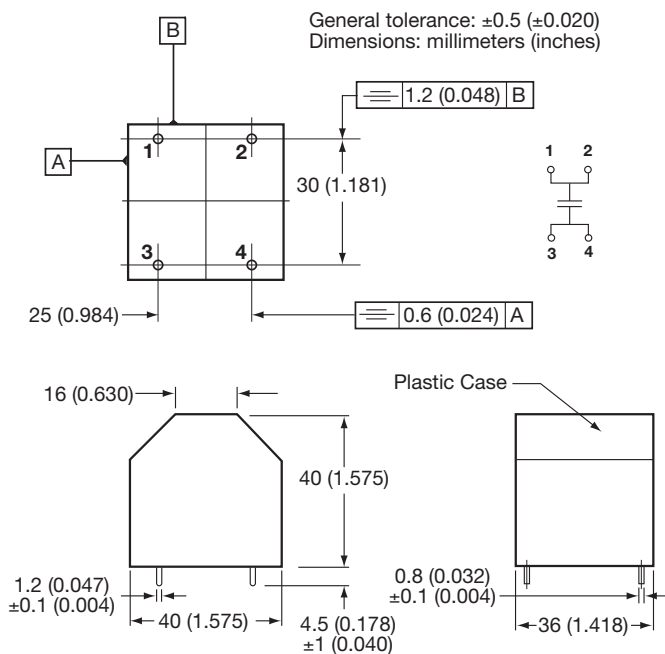
## FAV (RoHS Compliant)

### TUNING



### DIMENSIONS

#### Case Size 3



### 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.)

### 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     $R_{\text{th}}$  in °C/W

TUNING

### HOW TO ORDER

**FAV**

Series

**3**

Case Size  
Case Size 3

**6**

Dielectric  
6 = Polypropylene

**K**

Voltage Code  
K = 600Vdc  
B = 800Vdc  
L = 1000Vdc  
U = 1200Vdc  
R = 1500Vdc  
N = 2000Vdc

**0125**

Capacitance Code  
0 = pF code  
0125 = 1.2 $\mu$ F (1200nF)  
0105 = 1.0 $\mu$ F (1000nF)  
0154 = 0.15 $\mu$ F (150nF)  
etc.

**K**

Capacitance Tolerances  
K =  $\pm 10\%$

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Terminal Code  
-- = Standard



# Medium Power Film Capacitors



## FAV (RoHS Compliant)

### 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)
<b><math>V_{ndc}</math> 600V <math>V_{rms}</math>: 300V</b>							
FAV36K0125K--	1200	40	12	0.85	5	4	90
FAV36K0105K--	1000	32	10	1	5	4.1	90
<b><math>V_{ndc}</math> 800V <math>V_{rms}</math>: 400V</b>							
FAV36B0804K--	800	35	14	0.9	5	4	90
FAV36B0624K--	620	27	11	1.1	5	4.1	90
<b><math>V_{ndc}</math> 1000V <math>V_{rms}</math>: 450V</b>							
FAV36L0564K--	560	30	14	1	5	4	90
FAV36L0474K--	470	25	12	1.2	5	4.1	90
<b><math>V_{ndc}</math> 1200V <math>V_{rms}</math>: 500V</b>							
FAV36U0334K--	330	21	11	1.4	5	4.2	90
FAV36U0274K--	270	17	9	1.7	5	4.4	90
<b><math>V_{ndc}</math> 1500V <math>V_{rms}</math>: 600V</b>							
FAV36R0184K--	180	16	10	1.7	5	4.4	90
FAV36R0154K--	150	13	8	2	5	4.5	90
<b><math>V_{ndc}</math> 2000V <math>V_{rms}</math>: 650V</b>							
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

