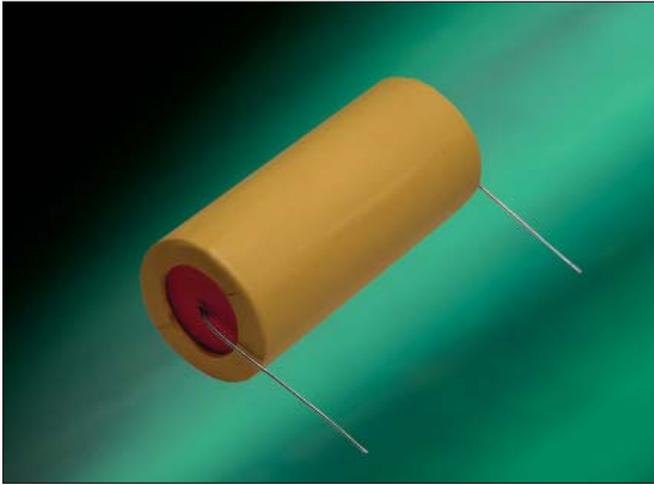


# Medium Power Film Capacitors

FD (RoHS Compliant) **AVX**



## GENERAL DESCRIPTION

FD series use metallized dielectric, controlled self-healing technology, high specific energy.

## USUAL APPLICATIONS

The FD capacitors are designed for discharge applications such as Laser, electronic flash, cardiac defibrillator, etc.

FD series offer a very high specific energy level, higher than 1500J per liter for cardiac defibrillator application.

## PACKAGING MATERIAL

Cylindrical with thermosetting sleeve, sealed with polyurethane resin.

## HOT SPOT CALCULATION

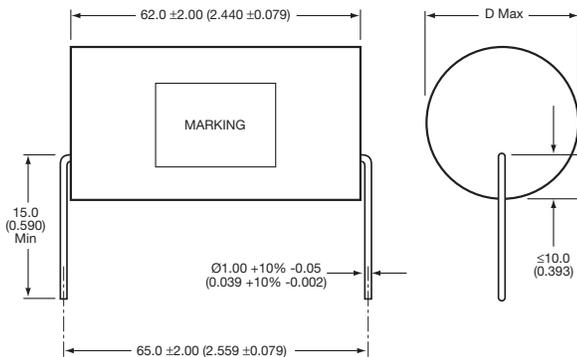
See *Hot Spot Temperature* page 3.

For all applications the temperature in the hot spot capacitor must be lower than 85°C

$$\theta_{\text{hot spot}} = \theta_{\text{ambient}} + (tg\delta_0 \times Q + R_s I_{\text{rms}}^2) \times R_{\text{th}}$$

with  $tg\delta_0 = 2 \cdot 10^{-4}$   
 Q in Vars  
 R<sub>s</sub> in Ohm  
 I<sub>rms</sub> in Ampere  
 R<sub>th</sub> in °C/W

## DIMENSIONS



DISCHARGE

## HOW TO ORDER

<b>FD</b>	<b>V1</b>	<b>6</b>	<b>L</b>	<b>0806</b>	<b>K</b>	<b>--</b>
Series	Style	Dielectric 6 = Polypropylene	Voltage Code L = 1000V Q = 1400V S = 1700V	Capacitance Code 0 = pF code 0806 = 80µF 0206 = 20µF 0505 = 5.0µF etc.	Capacitance Tolerances K = ±10%	Terminal Code -- = Standard

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## ELECTRICAL CHARACTERISTICS

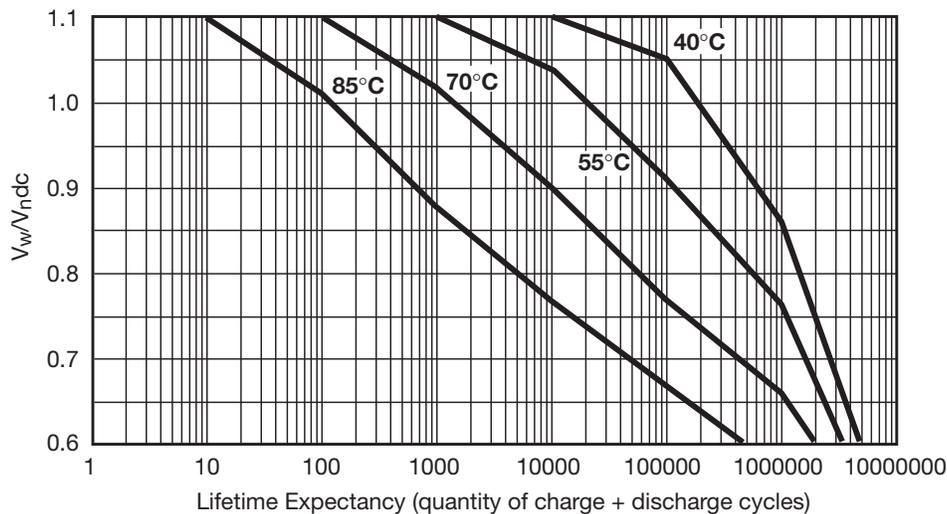
Operating temperature:	-55°C to +85°C
Storage temperature:	-55°C to +85°C
Capacitance range:	5µF to 80µF other values on request
Capacitance tolerance:	±10%
Nominal charging voltage:	1kV to 1.7kV higher voltage on request
Test voltage between terminals:	@ 25°C: 1.2 x U <sub>Ndc</sub> during 10s
Test voltage between terminals and earth:	@ 25°C: 2 U <sub>Ndc</sub> during 1 min (type test)
Dielectric	Polypropylene

## RATINGS AND PART NUMBER REFERENCE

Part Number	Capacitance (µF)	Max diameter mm (in)	I peak max (A)	Irms max (A)	R <sub>s</sub> (mΩ)	R <sub>th</sub> (°C/W)	Typical Weight (g)
<b>U<sub>ch</sub> = 1000V (Voltage Code L)</b>							
FDV16L0806K--	80	50 (1.969)	2500	12	6	15.9	170
FDV16L0606K--	60	44 (1.732)	2000	12	7.7	17.5	135
FDV16L0406K--	40	37 (1.457)	1300	10	11	18.2	95
FDV16L0206K--	20	28 (1.102)	650	5	21.1	17.3	55
<b>U<sub>ch</sub> = 1400V (Voltage Code Q)</b>							
FDV16Q0506K--	50	51 (2.008)	2100	12	7.1	16	170
FDV16Q0306K--	30	41 (1.614)	1250	11.5	11.2	17.3	135
FDV16Q0206K--	20	35 (1.378)	800	7.5	16.3	18.4	95
FDV16Q0106K--	10	27 (1.063)	400	3.5	31.5	17.3	55
<b>U<sub>ch</sub> = 1700V (Voltage Code S)</b>							
FDV16S0356K--	35	51 (2.008)	1750	12	8.3	16	170
FDV16S0256K--	25	44 (1.732)	1250	12	11	17.2	135
FDV16S0156K--	15	35 (1.378)	750	7.5	18	18.5	95
FDV16S0505K--	5	24 (0.945)	250	2.5	51.9	15.9	55

DISCHARGE

## LIFETIME EXPECTANCY vs VOLTAGE AND HOT SPOT TEMPERATURE



$V_w$ : operating or working charge voltage