

Medium Power Film Capacitors



FFVE/FFVI (FFWE/FFWI RoHS Compliant)

DC FILTERING



Not RoHS Compliant



Please select correct termination style.

GENERAL DESCRIPTION

The FFV capacitor is specifically designed for DC filtering, low reactive power.

The series uses a non-impregnated metallized polypropylene or polyester dielectric, which features a controlled self-healing process, specially treated to have a very high dielectric strength in operating conditions up to 105°C.

The FFV special design gives this series a very low level of stray inductance (18 nH to 40 nH).

Furthermore, the performance levels of the FFVE capacitor makes them a very interesting alternative to electrolytic technology, because they can withstand much higher levels of surge voltage, very high rms current ratings, and longer lifetimes.

PACKAGING MATERIAL

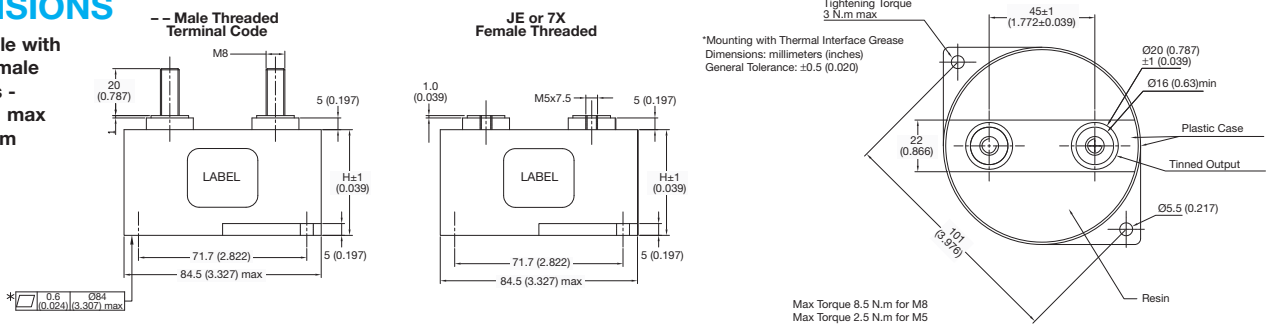
Self-extinguishing plastic case (V0 = in accordance with UL 94) filled thermosetting resin.

Self-extinguishing thermosetting resin (V0 = in accordance with UL 94; I3F1 = in accordance with NF F 16-101).

FFVE capacitors meet the Level 2 requirement of the fire behavior standard NF F 16-102.

DIMENSIONS

Also available with threaded female connections - M5 x 7.5mm max Torque 2.5Nm



HOW TO ORDER

| | | | | | |
|--|------------------------------------|--|--|--|--|
| FFVE | 4 | H | 0187 | K | -- |
| Series | Dielectric | Voltage Code | Capacitance Code | Capacitance Tolerances | Terminal Code |
| FFVE = Standard FFVI = Standard FFWE = RoHS Compliant FFWI = RoHS Compliant | 4 = Polyester 6 = Polypropylene | H = 300V I = 400V J = 500V K = 600V A = 700V B = 800V C = 900V | L = 1000V (FFVE/FFWE) L = 1100V (FFVI/FFWI) U = 1200V N = 1900V | 0 + pF code 0187 = 180µF 0356 = 35µF etc. | K = ±10% -- or J7 = Male Threaded JE or 7X = Female Threaded |
| See Ratings and Part Reference Tables for details | | | | | |

HOT SPOT CALCULATION

See Hot Spot Temperature, page 3.

$\theta_{hot\ spot} = \theta_{case} + (P_d + P_t) \times R_{th}$
 with P_d (Dielectric losses) = $Q \times tg\delta_0$
 $Q \times tg\delta_0 \Rightarrow [\frac{1}{2} \times C_n \times (V_{peak\ to\ peak})^2 \times f] \times tg\delta_0$
 $tg\delta_0$ (tan delta)
 For polypropylene, $tg\delta_0 = 2 \times 10^{-4}$ for frequencies up to 1MHz and is independent of temperatures. For polyester, $tg\delta_0$ values are shown in graph 4 on page 3.

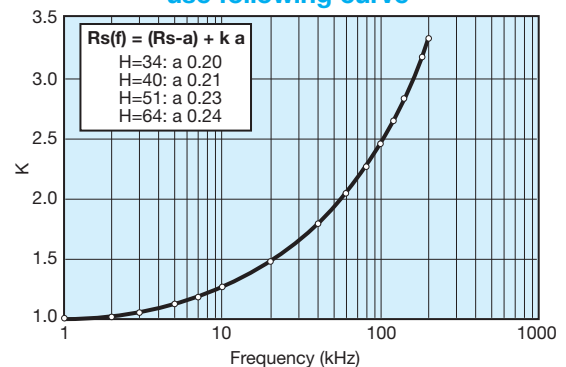
P_t (Thermal losses) = $R_s \times (I_{rms})^2$

where C_n in Farad I_{rms} in Ampere f in Hertz
 V in Volt R_s in Ohm θ in °C
 R_{th} in °C/W

θ_{case} = bottom center of case

Rs(f) vs FREQUENCY

For frequency higher than 1 kHz use following curve



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ELECTRICAL CHARACTERISTICS – FFVE/FFWE POLYESTER DIELECTRIC

| | |
|--|---|
| Working temperature | -40°C to +105°C (according to the power to be dissipated) |
| Capacitance range | 100µF to 400µF |
| Capacitance tolerance | ±10% |
| Rated DC voltage | 300 to 400 V |
| Test voltage between terminals @ 25°C | 1.5 x V _n dc 10s |
| Insulation voltage between shorted terminals and earth | 7 kVrms/60sec/50Hz |
| Dielectric | Polyester |

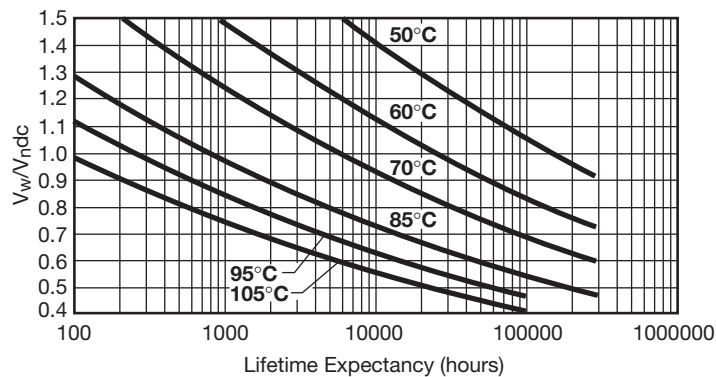
RATINGS AND PART NUMBER REFERENCE – POLYESTER DIELECTRIC

| Part Number* | Capacitance (µF) | Height | Irms max. (A) | Ls max. (nH) | Rs (mΩ) | Rth (°C/W) | Typical Weight (g) |
|---|------------------|------------|---------------|--------------|---------|------------|--------------------|
| V_ndc 300 volts (Voltage Code H) | | | | | | | |
| FFVE4H0187K-- | 180 | 34 (1.339) | 100 | 18 | 0.8 | 4.7 | 300 |
| FFVE4H1956K-- | 195 | 34 (1.339) | 100 | 18 | 0.8 | 4.4 | 300 |
| FFVE4H0257K-- | 250 | 40 (1.575) | 100 | 25 | 0.6 | 5.2 | 350 |
| FFVE4H0357K-- | 350 | 51 (2.008) | 100 | 32 | 0.8 | 7.2 | 420 |
| FFVE4H0407K-- | 400 | 51 (2.008) | 110 | 32 | 0.8 | 7.1 | 420 |
| V_ndc 400 volts (Voltage Code I) | | | | | | | |
| FFVE4I0107K-- | 100 | 34 (1.339) | 80 | 18 | 0.7 | 4.7 | 300 |
| FFVE4I0127K-- | 120 | 34 (1.339) | 100 | 18 | 0.6 | 4.1 | 300 |
| FFVE4I0157K-- | 150 | 40 (1.575) | 100 | 25 | 0.7 | 5.0 | 350 |
| FFVE4I0187K-- | 180 | 51 (2.008) | 80 | 32 | 1.0 | 8.5 | 420 |
| FFVE4I0227K-- | 220 | 51 (2.008) | 100 | 32 | 0.9 | 7.2 | 420 |

*Change "--" to "JE" for female connectors M5 x 7.5mm

Dimensions millimeters (inches)

LIFETIME EXPECTANCY FFVE POLYESTER



V_w: permanent working or operating DC voltage.



Medium Power Film Capacitors



FFVE/FFVI (FFWE/FFWI RoHS Compliant)

DC FILTERING

ELECTRICAL CHARACTERISTICS – FFVE/FFWE POLYPROPYLENE DIELECTRIC

| | |
|--|---|
| Working temperature | -40°C to +105°C (according to the power to be dissipated) |
| Capacitance range | 12µF to 220µF |
| Capacitance tolerance | ±10% |
| Rated DC voltage | 600 to 1900 V |
| Test voltage between terminals @ 25°C | 1.5 x V _n dc 10s |
| Insulation voltage between shorted terminals and earth | 7 kVrms/60sec/50Hz |
| Dielectric | Polypropylene |

RATINGS AND PART NUMBER REFERENCE – POLYPROPYLENE DIELECTRIC

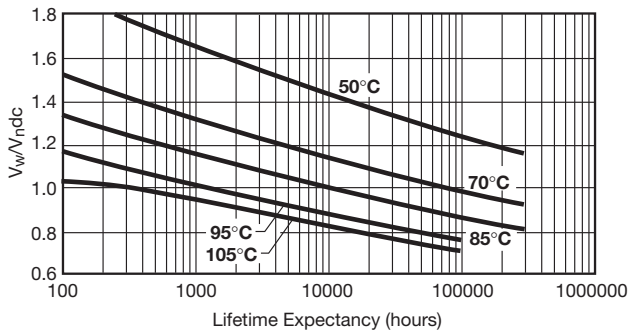
| Part Number* | Capacitance (µF) | Height | I _{rms} max. (A) | L _s max. (nH) | R _s (mΩ) | R _{th} (°C/W) | Typical Weight (g) |
|--|------------------|------------|---------------------------|--------------------------|---------------------|------------------------|--------------------|
| V_ndc 600 volts (Voltage Code K) | | | | | | | |
| FFVE6K0256K-- | 25 | 34 (1.339) | 90 | 18 | 0.7 | 4.3 | 300 |
| FFVE6K0107K-- | 100 | 40 (1.575) | 100 | 25 | 0.6 | 4.8 | 350 |
| FFVE6K0157K-- | 150 | 51 (2.008) | 110 | 32 | 0.9 | 6.9 | 420 |
| FFVE6K0227K-- | 220 | 64 (2.520) | 100 | 40 | 1.0 | 8.4 | 500 |
| V_ndc 800 volts (Voltage Code B) | | | | | | | |
| FFVE6B0666K-- | 66 | 40 (1.575) | 100 | 25 | 0.7 | 4.7 | 350 |
| FFVE6B0107K-- | 100 | 51 (2.008) | 90 | 32 | 1.0 | 6.7 | 420 |
| FFVE6B0147K-- | 140 | 64 (2.520) | 100 | 40 | 1.3 | 8.4 | 500 |
| V_ndc 900 volts (Voltage Code C) | | | | | | | |
| FFVE6C0126K-- | 12 | 34 (1.339) | 70 | 18 | 0.9 | 4.4 | 300 |
| FFVE6C0386K-- | 38 | 34 (1.339) | 100 | 18 | 1.6 | 3.9 | 300 |
| FFVE6C0476K-- | 47 | 40 (1.575) | 100 | 25 | 0.8 | 4.6 | 350 |
| FFVE6C0706K-- | 70 | 51 (2.008) | 100 | 32 | 1.2 | 6.7 | 420 |
| FFVE6C0107K-- | 100 | 64 (2.520) | 90 | 40 | 1.1 | 8.2 | 500 |
| V_ndc 1000 volts (Voltage Code L) | | | | | | | |
| FFVE6L0666KJ7 | 66 | 40 (1.575) | 70 | 25 | 1.5 | 5.1 | 350 |
| FFVE6L0107KJ7 | 100 | 51 (2.008) | 64 | 32 | 2.0 | 7.3 | 420 |
| FFVE6L0147KJ7 | 140 | 64 (2.520) | 51 | 40 | 2.5 | 9.2 | 500 |
| V_ndc 1200 volts (Voltage Code U) | | | | | | | |
| FFVE6U0476KJ7 | 47 | 40 (1.575) | 66 | 25 | 1.7 | 4.9 | 350 |
| FFVE6U0706KJ7 | 70 | 51 (2.008) | 59 | 32 | 2.4 | 7.2 | 420 |
| FFVE6U0107KJ7 | 100 | 64 (2.520) | 49 | 40 | 2.9 | 8.9 | 500 |
| V_ndc 1900 volts (Voltage Code N) | | | | | | | |
| FFVE6N0156KJ7 | 15 | 40 (1.575) | 73 | 25 | 1.1 | 5.2 | 350 |
| FFVE6N0246KJ7 | 24 | 51 (2.008) | 73 | 32 | 1.3 | 6.5 | 420 |
| FFVE6N0356KJ7 | 35 | 64 (2.520) | 67 | 40 | 1.6 | 8.4 | 500 |

*Change "--" to "JE" for female connectors M5 x 7.5mm
 *Change "J7" to "7X" for female connectors M5 x 7.5mm

Dimensions millimeters (inches)

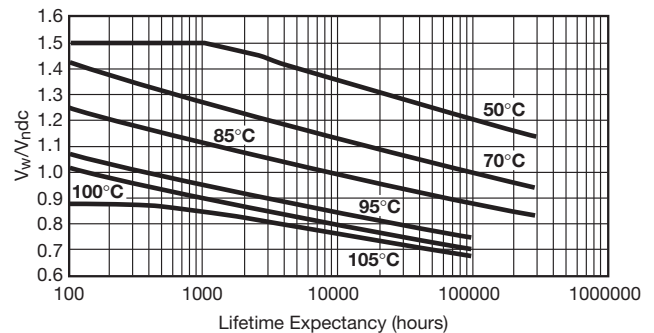
LIFETIME EXPECTANCY FOR FFVE POLYPROPYLENE

-- and JE



V_w: permanent working or operating DC-voltage.

J7 and 7X



V_w: permanent working or operating DC-voltage.



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ELECTRICAL CHARACTERISTICS – FFVI/FFWI POLYPROPYLENE DIELECTRIC

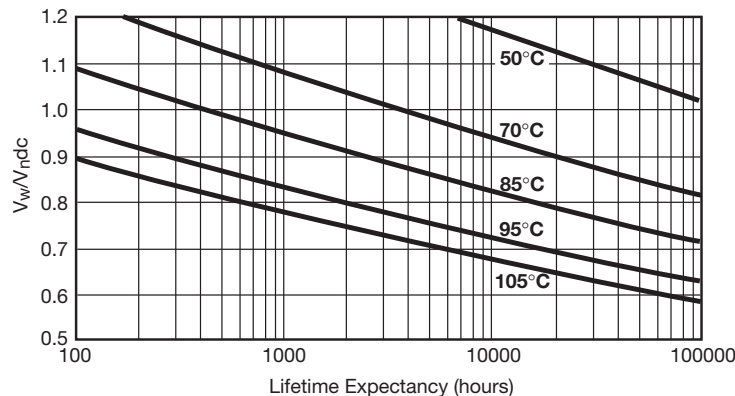
| | |
|--|---|
| Working temperature | -40°C to +105°C (according to the power to be dissipated) |
| Capacitance range | 47µF to 275µF |
| Capacitance tolerance | ±10% |
| Rated DC voltage | 500 to 1100V |
| Test voltage between terminals @ 25°C | 1.25 x V_{Ndc} 10s |
| Insulation voltage between shorted terminals and earth | 7 kVrms/60sec/50Hz |
| Dielectric | Polypropylene |

RATINGS AND PART NUMBER REFERENCE – POLYPROPYLENE DIELECTRIC

| Part Number* | Capacitance (µF) | Height | Irms max. (A) | Ls max. (nH) | Rs (mΩ) | Rth (°C/W) | Typical Weight (g) |
|---|------------------|------------|---------------|--------------|---------|------------|--------------------|
| V_{Ndc} 500 volts (Voltage Code J) | | | | | | | |
| FFVI6J1256K-- | 125 | 40 (1.575) | 90 | 25 | 0.6 | 5.0 | 350 |
| FFVI6J0207K-- | 200 | 51 (2.008) | 90 | 32 | 0.8 | 6.7 | 420 |
| FFVI6J2756K-- | 275 | 64 (2.520) | 90 | 40 | 0.9 | 8.7 | 500 |
| V_{Ndc} 700 volts (Voltage Code A) | | | | | | | |
| FFVI6A0107K-- | 100 | 40 (1.575) | 100 | 25 | 0.6 | 4.8 | 350 |
| FFVI6A0157K-- | 150 | 51 (2.008) | 100 | 32 | 0.9 | 6.9 | 420 |
| FFVI6A0227K-- | 220 | 64 (2.520) | 100 | 40 | 1.0 | 8.4 | 500 |
| V_{Ndc} 900 volts (Voltage Code C) | | | | | | | |
| FFVI6C0666K-- | 66 | 40 (1.575) | 100 | 25 | 0.7 | 4.7 | 350 |
| FFVI6C0107K-- | 100 | 51 (2.008) | 90 | 32 | 1.0 | 6.7 | 420 |
| FFVI6C0147K-- | 140 | 64 (2.520) | 100 | 40 | 1.3 | 8.4 | 500 |
| V_{Ndc} 1100 volts (Voltage Code L) | | | | | | | |
| FFVI6L0476K-- | 47 | 40 (1.575) | 100 | 25 | 0.8 | 4.6 | 350 |
| FFVI6L0706K-- | 70 | 51 (2.008) | 100 | 32 | 1.2 | 6.7 | 420 |
| FFVI6L0107K-- | 100 | 64 (2.520) | 90 | 40 | 1.1 | 8.2 | 500 |

Dimensions millimeters (inches)

LIFETIME EXPECTANCY FOR FFVI



V_w : permanent working or operating DC-voltage.

Компания «Океан Электроники» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

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- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Помощь Конструкторского Отдела и консультации квалифицированных инженеров;
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- Поставка электронных компонентов под контролем ВП;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- При необходимости вся продукция военного и аэрокосмического назначения проходит испытания и сертификацию в лаборатории (по согласованию с заказчиком);
- Поставка специализированных компонентов военного и аэрокосмического уровня качества (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Actel, Aeroflex, Peregrine, VPT, Syfer, Eurofarad, Texas Instruments, MS Kennedy, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

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JONHON

«JONHON» (основан в 1970 г.)

Разъемы специального, военного и аэрокосмического назначения:

(Применяются в военной, авиационной, аэрокосмической, морской, железнодорожной, горно- и нефтедобывающей отраслях промышленности)

«FORSTAR» (основан в 1998 г.)

ВЧ соединители, коаксиальные кабели, кабельные сборки и микроволновые компоненты:

(Применяются в телекоммуникациях гражданского и специального назначения, в средствах связи, РЛС, а так же военной, авиационной и аэрокосмической отраслях промышленности).



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