

# Metallized Polypropylene Film Capacitor (Snap-in) Temperature Humidity Bias (THB) DC-Link Applications

## FDD series



### Overview

The FDD series is constructed of metallized polypropylene film with cylindrical plastic box type filled with epoxy resin and snap-in pins.

### Applications

- High performance DC filtering applications.
- Frequency converters, industrial power supplies.
- Welders, elevators, motor driver systems.

### Features

- High ripple current
- Self-healing property
- Low losses
- High capacitance density
- High stability of capacitance under severe ambient condition, such as high temperature and high humidity

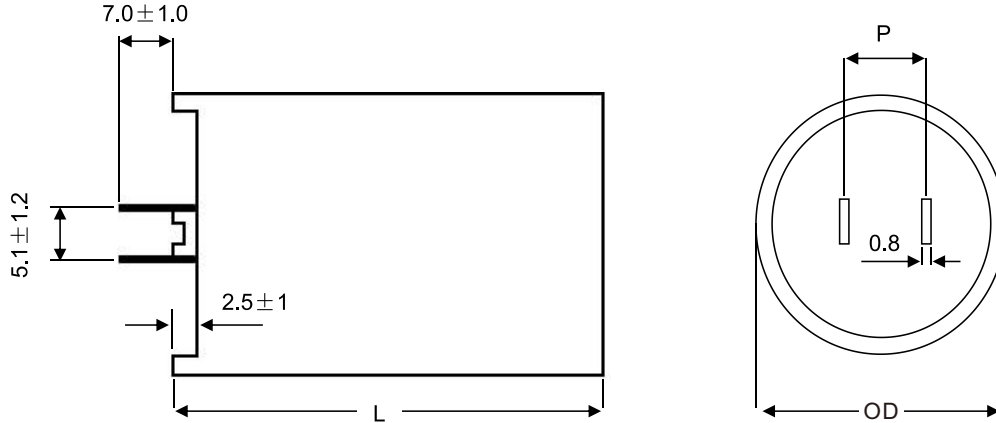
### Specifications

Items	Characteristics
Application	DC Filtering / DC Link
Reference Standard	IEC 61071
Climatic Category	40/85/56 IEC 60068-1
Operating Temperature Range	-40°C ~ +105°C
Rated Voltage	500Vdc ~ 1200Vdc
Capacitance Range	8μF ~ 100μF
Capacitance Tolerance	±5% or ±10% at +25°C
Dissipation Factor (DF)	≤ 0.001 (0.1%) at 100Hz at +25°C
Test Voltage Between Terminals	1.5 x rated voltage for 10s (terminal to terminal)
Test Voltage Terminal to Case	3.0KVac 50 Hz for 10s at +25°C
Insulation Resistance	IR x C ≥ 30,000 Seconds at 100VDC 1 minute at +25°C
Life Expectancy	100,000 hours at Un @ Hot-Spot temperature T=+70°C
Protection	Solvent resistant plastic case UL94 V-0 Thermosetting resin sealing UL94 V-0 compliant
Installation	Any position
Terminals	Tinned copper pins, standard terminals length 7 ±1mm
Packaging	Packed in cardboard boxes with protection for the terminals
RoHS Compliant	Compliant with the restricted substance requirements of Directive 2002/95/EC
Storage Conditions	Storage time: ≤ 24 months from the date marked on the label package Temperature and relative humidity should be -10°C ~ +40°C and not more than 75%RH. RH ≤ 85% for 30 days randomly distributed throughout the year
Humidity Test	Test conditions & performance:
	Temperature: +40°C ±2°C Relative humidity(RH) :93% ±2%
	Test duration : 56 days
	Capacitance change : ≤±5% DF change (Δtgδ):≤50 X 10 <sup>-4</sup> at 100Hz Insulation resistance: ≥50% of initial limit
Endurance Test	Test conditions & performance:
	Temperature: +85°C ±2°C Voltage applied:1.3 X V <sub>R</sub> (d.c.)
	Test duration : 1000 hours
	Capacitance change : ≤±5% DF change (Δtgδ):≤50 X 10 <sup>-4</sup> at 100Hz Insulation resistance: ≥50% of initial limit
THB Test (Damp heat test with loading)	Test conditions & performance:
	Temperature: +85°C ±2°C Relative humidity(RH) :85% ±2%
	Loading Voltage: Rated voltage (DC)
	Test duration : 1000 hours Capacitance change : ≤±5%

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### Outline Drawing



### Dimensions - Case:

Unit: mm

Case Code	OD	L	P	P1
	$\pm 1.0$	$\pm 1.0$	$\pm 1.0$	$\pm 1.0$
A10	36.0	54.0	12.7	5.1
A20	51.0	51.0	12.7	5.1
A30	50.0	63.0	12.7	5.1
A40	56.5	63.0	12.7	5.1
A50	63.5	51.5	12.7	5.1

### Technical data

Vdc	Cap	Dimensions		P	I <sub>rms</sub>			Peak	ESR	ESL	Thermal	dv/dt	Part Number
	Value	OD	L		100KHz			Current	100KHz		Res		
	$\mu$ F	mm	mm		25°C A	50°C A	70°C A	A	m $\Omega$		nH		
500.0	35.0	36.0	54.0	12.7	22.0	18.5	13.0	1050	8.0	25	8.6	30.0	FDD2HK356Y+++PA7
500.0	80.0	50.0	63.0	12.7	30.0	25.5	13.5	2400	6.0	25	8.2	30.0	FDD2HK806Y+++PA7
500.0	100.0	50.0	63.0	12.7	35.0	28.0	14.5	3000	5.8	25	7.9	30.0	FDD2HK107Y+++PA7
600.0	30.0	36.0	54.0	12.7	22.0	18.0	12.0	900	9.0	25	9.8	30.0	FDD2KK306Y+++PA7
600.0	80.0	50.0	63.0	12.7	32.0	25.0	14.0	2400	6.8	25	9.5	30.0	FDD2KK806Y+++PA7
700.0	20.0	36.0	54.0	12.7	20.0	16.0	10.0	800	10.0	25	10.8	40.0	FDD2MK206Y+++PA7
700.0	50.0	50.0	63.0	12.7	30.0	24.0	12.0	2000	7.0	25	9.4	40.0	FDD2MK506Y+++PA7
800.0	15.0	36.0	54.0	12.7	19.0	15.0	10.0	750	10.0	25	10.5	50.0	FDD2NK156Y+++PA7
800.0	40.0	50.0	63.0	12.7	28.0	23.0	12.0	2000	7.5	25	9.5	50.0	FDD2NK406Y+++PA7
800.0	60.0	51.0	51.0	12.7	33.0	27.0	16.0	3000	4.0	25	6.5	50.0	FDD2NK606Y+++PA7
800.0	60.0	50.0	63.0	12.7	33.0	27.0	16.0	3000	4.0	25	6.5	50.0	FDD2NJ606Y+++PA7
800.0	90.0	56.5	63.0	12.7	36.0	29.0	20.0	4500	3.0	25	5.0	50.0	FDD2NK906Y+++PA7
800.0	90.0	63.5	51.5	12.7	36.0	29.0	20.0	4500	3.0	25	5.0	50.0	FDD2NJ906Y+++PA7
900.0	14.0	36.0	54.0	12.7	18.0	15.0	9.5	700	10.5	25	10.5	50.0	FDD2QK146Y+++PA7
900.0	35.0	50.0	63.0	12.7	27.0	22.0	11.5	1750	8.0	25	9.5	50.0	FDD2QK356Y+++PA7
1000.0	10.0	36.0	54.0	12.7	18.0	14.0	9.0	500	12.0	25	10.5	50.0	FDD3KK106Y+++PA7
1000.0	25.0	50.0	63.0	12.7	27.0	22.0	11.5	1250	8.5	25	9.5	50.0	FDD3KK256Y+++PA7
1200.0	8.0	36.0	54.0	12.7	16.0	12.0	8.5	400	13.5	25	10.8	50.0	FDD3BK805Y+++PA7
1200.0	20.0	50.0	63.0	12.7	26.0	21.0	11.0	1000	9.0	25	9.5	50.0	FDD3BK206Y+++PA7

\* Customized products are available by request, contact us for more details.

\* Specification are subject to change, please refer to approved data sheets.