FFD Series

c UL us

Component Recognized by UL to US and Canadian Requirements



FFD Series

- DC feedthrough filters
- Current ratings from 10 to 200A
- Designed to meet the very stringent safety requirements of EN133200 class Y4 including the 2500V pulse test
- Custom versions available

Ordering Information

10 FFD6 – CA

- CA: Filter ID (See Table)
- FFD6: FFD Series Screw Terminals
- 10: Current Rating *(in A)*

Filter Options / Specifications

Filter ID	Value (nF)	Inductance (nH)	DC Resistance (mΩ) Max.
CA	2 x 10	70	6
HB	2 x 100	80	3
HE	2 x 100	140	8
NC	2 x 470	90	2
ND	2 x 470	120	1
NH	2 x 470	180	3
PK	2 x 1000	240	2
RP	2 x 4700	330	2

Specifications

Rated Voltage (max): 130 VDC

Rated Current: 10 to 200A

Test Voltage (two seconds): 2500 VDC

Capacitor Class (EN133200): Designed to meet Y4

Pulse Test (EN133200): 2500V Peak

Insulation Resistance (within 1 minute):
For C < 0.33µF, R> 15000MΩ
For C > 0.33µF, RC(MΩ*µF)>5000s

Operating Ambient Temperature Range (at rated current I_r):
10 to 100A: -40°C to +60°C
200A: -40°C to +50°C

Category Temperature Range: -40°C to +85°C

Current Derating Above Ambient:
10-100A: For temperature, θ $I_\theta = IR \sqrt{(85-\theta)/25}$
200A: For temperature, θ $I_\theta = IR \sqrt{(85-\theta)/35}$

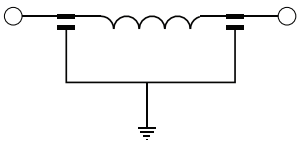
Climatic Category: 40/85/21

MTBF: > 5 million hours typical

Insulating Materials Flammability Rating: UL94V-0

Case & Terminal Material: Nickel Plated Brass

Electrical Schematic

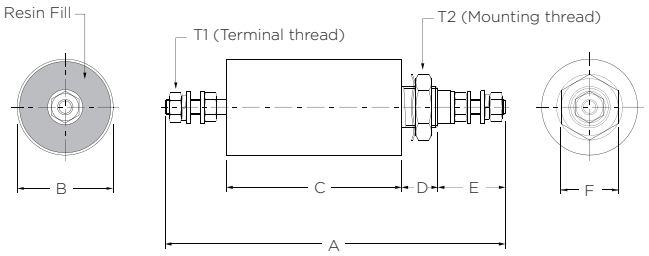


Dimensions are in inches and millimeters unless otherwise specified. Values in italics are metric equivalents. Dimensions are shown for reference purposes only. Specifications subject to change.

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FFD Series

Case Style



T1 – Terminal Thread

Part No.	Thread	Torque max. in.lb.
10FFD6-CA/HE	M3	4
16FFD6-CA/HE 32FFD6-CA/HE	M4	11
63FFD6-HB/NH	M6	22
100FFD6-NC/PK	M8	44
200FFD6-ND/RP	M10	70

T2 – Mounting Thread

Part No.	Thread	Torque max. in.lb.
10FFD6-CA/HE 16FFD6-CA/HE 32FFD6-CA/HE	M12 x 1	35
63FFD6-HB/NH	M20 x 1	89
100FFD6-NC/PK	M24 x 1	124
200FFD6-ND/RP	M27 x 1.5	142

Case Dimensions

Part No.	A ± .04 *1*	B ± .02 *0.5*	C ± .08 *2*	D ± .04 *1*	E ± .08 *2*	F (max)
10FFD6-CA	**3.54** *90*	**0.79** *20*	**1.93** *49*	**0.47** *12*	**0.63** *16*	**0.67** *17*
16FFD6-CA 32FFD6-CA	**3.86** *98*	**0.79** *20*	**2.09** *53*	**0.47** *12*	**0.71** *18*	**0.67** *17*
63FFD6-HB	**6.30** *160*	**0.98** *25*	**3.70** *94*	**0.55** *14*	**1.02** *26*	**0.87** *22*
100FFD6-NC	**7.24** *184*	**1.26** *32*	**4.09** *104*	**0.63** *16*	**1.26** *32*	**1.06** *27*
200FFD6-ND	**8.23** *209*	**1.50** *38*	**4.41** *112*	**0.75** *19*	**1.57** *40*	**1.06** *27*
10FFD6-HE	**5.12** *130*	**0.79** *20*	**3.50** *89*	**0.47** *12*	**0.63** *16*	**0.67** *17*
16FFD6-HE 32FFD6-HE	**5.47** *139*	**0.79** *20*	**3.70** *94*	**0.47** *12*	**0.71** *18*	**0.67** *17*
63FFD6-NH	**6.81** *173*	**1.26** *32*	**4.13** *105*	**0.63** *16*	**1.02** *26*	**1.06** *27*
100FFD6-PK	**8.98** *173*	**1.50** *32*	**5.71** *105*	**0.75** *16*	**1.26** *26*	**1.06** *27*
200FFD6-RP	**10.98** *279*	**2.13** *54*	**7.17** *182*	**0.75** *19*	**1.57** *40*	**1.57** *40*

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Available Part Numbers

Standard Performance	High Performance
10FFD6-CA	10FFD6-HE
16FFD6-CA	16FFD6-HE
32FFD6-CA	32FFD6-HE
63FFD6-HB	63FFD6-NH
100FFD6-NC	100FFD6-PK
200FFD6-ND	200FFD6-RP

Performance Data

Typical Insertion Loss — Line to Ground in 50 Ohm circuit

Filter ID	Frequency – MHz							
	0.01	0.03	0.1	0.3	1	10	100	1000
CA	-	-	2	4	10	23	65	100
HB	2	4	10	18	27	62	95	100
HE	2	4	10	18	27	67	95	100
NC	7	14	23	30	32	70	100	100
ND	7	14	23	30	32	70	100	100
NH	7	14	23	31	35	75	100	100
PK	14	21	30	34	53	75	100	100
RP	20	32	40	52	85	100	100	100

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