

DC Feedthrough Filters - Class Y4

FFD Series



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



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_θ = IR √(85-θ)/25
200A: For temperature, θ I_θ = IR √(85-θ)/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



DC Feedthrough Filters - Class Y4 (continued)

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Case Style



T1 - Terminal Thread

Part No.	Thread	Torque max. in.lb.
10FFD6-CA/HE	M3	4
16FFD6-CA/HE	M4	11
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	M12 x 1	35
16FFD6-CA/HE		
32FFD6-CA/HE		
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	B	C	D	E	F
	$\pm_{-0.04}^{+0.04}$ 1	$\pm_{-0.5}^{+0.2}$ 0.5	$\pm_{-2}^{+0.08}$ 2	$\pm_{-1}^{+0.04}$ 1	$\pm_{-2}^{+0.08}$ 2	(max)
10FFD6-CA	3.54 90	0.79 20	1.93 49	0.47 12	0.63 16	0.67 17
16FFD6-CA	3.86	0.79	2.09	0.47	0.71	0.67
32FFD6-CA	98	20	53	12	18	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	5.47	0.79	3.70	0.47	0.71	0.67
32FFD6-HE	139	20	94	12	18	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