

DC Feedthrough Filters - Class Y4

FFD Series



UL Pending
CSA Pending

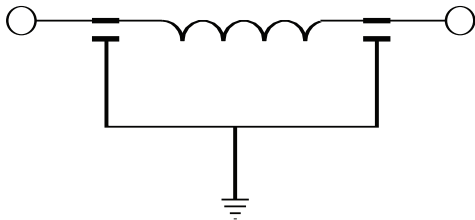
FFD Series

The new FFD series features a range of DC feedthrough filters in current ratings from 10 to 200 amps. The FFD series is designed to meet the very stringent safety requirements of EN133200 class Y4 including the 2500V pulse test.

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

Schematic



Specifications

Rated Voltage (max): 130 VDC
Rated Current: 10 to 200 amps
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 (@ rated current I_R):
 10 to 100 Amps: -40°C to +60°C
 200 Amps: -40°C to +50°C
Category Temperature Range: -40°C to +85°C
Climatic Category: 40/85/21
MTBF: Typically >5 million hours
Insulating Materials Flammability Rating: UL 94V-0

Typical insertion loss in dB:
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

Current derating above ambient:

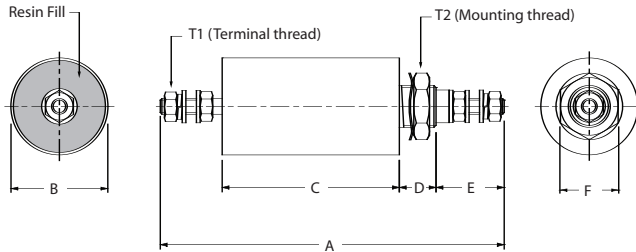
$$10-100 \text{ Amp: For temperature, } \theta I_{\theta} = I_R \frac{(85-\theta)}{25}$$

$$200 \text{ Amp: For temperature, } \theta I_{\theta} = I_R \frac{(85-\theta)}{35}$$

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Case Style



T1 - Terminal Thread

Part Number(s)	Thread	Torque (in-lb.)
10FFD6-CA	M3	4
16FFD6-CA/HE	M4	11
32FFD6-CA/HE		
63FFD6-HB/NH	M6	22
100FFD6-NC/PK	M8	44
200FFD6-ND/RP	M10	70

T2 - Mounting Thread

Part Number(s)	Thread	Torque (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 ±.04	B ±.02	C ±.08	D ±.04	E ±.08	F
	1	0.5	2	1	2	
10FFD6-CA	3.54 <i>90</i>	0.79 <i>20</i>	1.93 <i>49</i>	0.47 <i>12</i>	0.63 <i>16</i>	0.67 <i>17</i>
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 <i>160</i>	0.98 <i>25</i>	3.70 <i>94</i>	0.55 <i>14</i>	1.02 <i>26</i>	0.87 <i>22</i>
100FFD6-NC	7.24 <i>184</i>	1.26 <i>32</i>	4.09 <i>104</i>	0.63 <i>16</i>	1.26 <i>32</i>	1.06 <i>27</i>
200FFD6-ND	8.23 <i>209</i>	1.50 <i>38</i>	4.41 <i>112</i>	0.75 <i>19</i>	1.57 <i>40</i>	1.06 <i>27</i>
10FFD6-HE	5.12 <i>130</i>	0.79 <i>20</i>	3.50 <i>89</i>	0.47 <i>12</i>	0.63 <i>16</i>	0.67 <i>17</i>
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 <i>173</i>	1.26 <i>32</i>	4.13 <i>105</i>	0.63 <i>16</i>	1.02 <i>26</i>	1.06 <i>27</i>
100FFD6-PK	8.98 <i>228</i>	1.50 <i>38</i>	5.71 <i>145</i>	0.75 <i>19</i>	1.26 <i>32</i>	1.06 <i>27</i>
200FFD6-RP	10.98 <i>279</i>	2.13 <i>54</i>	7.17 <i>182</i>	0.75 <i>19</i>	1.57 <i>40</i>	1.57 <i>40</i>

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