

AC Feedthrough Filters – Class Y2

FFA Series



Component Recognized by
UL to US and Canadian Requirements



FFA Series

- AC feedthrough filters
- Current Ratings from 10 to 300A
- Designed to meet the very stringent safety requirements of EN133200 class Y2 including the 5000V pulse test
- Custom versions available

Ordering Information

10 FFA6 – BA

Filter ID

See Table

FFA Series Screw Terminals

Current Rating (*in A*)

Filter Options / Specifications

Filter ID	Value (nF)	Inductance (nH)	Max. Leakage Current (mA)*	DC Resistance (mΩ) Max.
BA	2 x 4.7	70	0.9	6
CA	2 x 10	70	1.9	4
CE	2 x 10	140	1.9	7
DG	2 x 22	170	4.2	4
DH	2 x 22	180	4.2	4
GB	2 x 47	80	8.9	3
GJ	2 x 47	210	8.9	9
HC	2 x 100	90	19	2
HD	2 x 100	120	19	1
HF	2 x 100	160	19	< 1
HN	2 x 100	250	19	6
JK	2 x 150	240	29	3
NP	2 x 470	330**	89	< 2
PP	2 x 1000	330	188	< 2

*@ 250 VAC 60 Hz

**240 for 100A Version

Specifications

Rated Voltage (max):	250 VAC
Operating Frequency:	50/60 Hz
Rated Current:	10 to 300A
Test Voltage (two seconds):	5000 VDC
Capacitor Class (EN133200):	Designed to meet Y2
Pulse Test (EN133200):	5000V 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
250 & 300A: -40°C to +40°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 $I_{\theta} = IR \sqrt{(85-\theta)/35}$
250 & 300A: For temp., θ $I_{\theta} = IR \sqrt{(85-\theta)/45}$

Climatic Category:

40/85/21

MTBF:

> 5 million hours typical

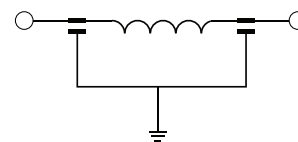
Insulating Materials Flammability Rating:

UL94V-0

Case & Terminal Material:

Nickel Plated Brass

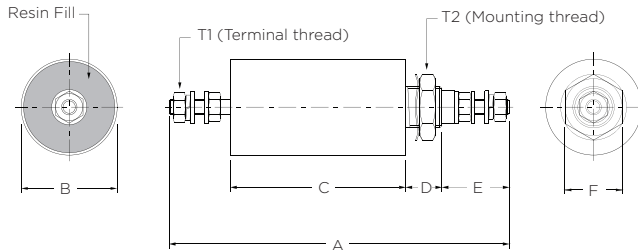
Electrical Schematic



AC Feedthrough Filters – Class Y2 (continued)

FFA Series

Case Style



T1 – Terminal Thread

Part No.	Thread	Torque max. in.lb.
10FFA6-BA/CE/CJ	M3	4
16FFA6-CA/DG/HN	M4	11
32FFA6-CA/DH/HN	M6	22
63FFA6-GB/JK/NP	M8	44
100FFA6-HC/NP/PP	M10	70
200FFA6-HD/NP/PP	M12	97
250FFA6-HF/NP/PP	M16	177

T2 – Mounting Thread

Part No.	Thread	Torque max. in.lb.
10FFA6-BA/CE/CJ	M12 x 1	35
16FFA6-CA	M16 x 1	62
32FFA6-CA	M20 x 1	89
16FFA6-DG/HN	M24 x 1	124
32FFA6-DH/HN	M27 x 1.5	142
63FFA6-GB	M32 x 1.5	212
63FFA6-JK		
100FFA6-HC		
100FFA6-NP		
200FFA6-HD		
63FFA6-NP		
100FFA6-PP		
200FFA6-NP/PP		
250FFA6-HF/NP/PP		
300FFA6-HF/NP/PP		

Case Dimensions

Part No.	A $\pm .04$ 1	B $\pm .02$ 0.5	C $\pm .08$ 2	D $\pm .04$ 1	E $\pm .08$ 2	F (max)
10FFA6-BA	3.86 98	0.79 20	2.24 57	0.47 12	0.63 16	0.67 17
16FFA6-CA	4.17	0.79	2.40	0.47	0.71	0.67
32FFA6-CA	106	20	61	12	18	17
63FFA6-GB	6.30 160	0.98 25	3.70 94	0.55 14	1.02 26	0.87 22
100FFA6-HC	7.24 184	1.26 32	4.09 104	0.63 16	1.26 32	1.06 27
200FFA6-HD	8.23 209	1.50 38	4.41 112	0.75 19	1.57 40	1.06 27
300FFA6-HF	7.87 200	2.13 54	3.66 93	0.75 19	1.81 46	1.57 40
10FFA6-CE	4.21 107	0.79 20	2.60 66	0.47 12	0.63 16	0.67 17
16FFA6-DG	4.57	0.98	2.72	0.55	0.71	0.87
32FFA6-DH	116	25	69	14	18	22
63FFA6-JK	6.81 173	1.26 32	4.13 105	0.63 16	1.02 26	1.06 27
100FFA6-NP	8.98 228	1.50 38	5.71 145	0.75 19	1.26 32	1.06 27
200FFA6-NP	9.57 243	2.13 54	5.75 146	0.75 19	1.57 40	1.57 40
250FFA6-NP	10.51	2.13	6.30	0.75	1.81	1.57
300FFA6-HN	267	54	160	19	46	40
10FFA6-GJ	5.51 140	0.79 20	3.90 99	0.47 12	0.63 16	0.67 17
16FFA6-HN	5.83	0.98	3.98	0.55	0.71	0.87
32FFA6-HN	148	25	101	14	18	22
63FFA6-NP	7.44 189	2.13 54	4.65 118	0.75 19	1.02 26	1.57 40
100FFA6-PP	8.94 227	2.13 54	5.67 144	0.75 19	1.26 32	1.57 40
200FFA6-PP	9.57 243	2.13 54	5.75 146	0.75 19	1.57 40	1.57 40
250FFA6-PP	10.51	2.13	6.3	0.75	1.81	1.57
300FFA6-PP	267	54	160	19	46	40

AC Feedthrough Filters – Class Y2 *(continued)*

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Available Part Numbers

Standard Performance	High Performance	Extended Performance
10FFA6-BA	10FFA6-CE	10FFA6-GJ
16FFA6-CA	16FFA6-DG	16FFA6-HN
32FFA6-CA	32FFA6-DH	32FFA6-HN
63FFA6-GB	63FFA6-JK	63FFA6-NP
100FFA6-HC	100FFA6-NP	100FFA6-PP
200FFA6-HD	200FFA6-NP	200FFA6-PP
250FFA6-HF	250FFA6-NP	250FFA6-PP
300FFA6-HF	300FFA6-NP	300FFA6-PP

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
BA	-	-	-	-	4	18	80	100
CA	-	-	2	4	10	22	65	100
CE	-	-	2	3	10	28	65	100
DG	-	-	3	7	15	40	72	100
DH	-	-	3	7	15	40	72	100
GB	-	-	6	11	21	50	85	100
GJ	-	-	5	12	21	60	90	100
HC	-	2	10	18	27	60	100	100
HD	-	2	10	18	27	60	100	100
HF	-	2	10	18	27	60	100	100
HN	2	4	10	17	24	75	90	100
JK	3	8	15	21	28	72	100	100
NP	7	15	24	31	44	80	100	100
PP	12	20	29	33	56	80	100	100