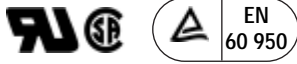


RFI Power Line Filters for DC Applications

DC Series



UL Recognized
CSA Certified
TUV Approved

DC Series

The DC series filters were designed as general purpose line filters for DC applications. They are available with or without circuit breakers for extra protection. They are available with feed-through capacitors for added high frequency performance. The DC series is designed to comply with UL 1283, CSA 22.2 No. 8 and EN60950.

The DC series was developed in response to the increasing demand for DC filtering in the telecom-datacom market. These filters are generally used in central office equipment like switches, routers, and hubs to clean up the 48 VDC power, but are not exclusive to that equipment. They can also be used at the primary input of the DC power supply. The DC Series is available in both a flange mount (DCF) and bulkhead mount (DCB) configuration.

Circuit Breaker Features (B Suffix)

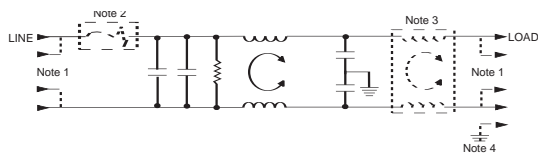
- always hold 100% of rated current independent of ambient temperature (minimize nuisance tripping)
- Always trip at 125% of rated current independent of ambient temperature
- Can be combined with feed through capacitor in bulk head mount (DCB prefix) for high performance applications (BF Suffix)

Feed Through Capacitor for High Performance (F Suffix)

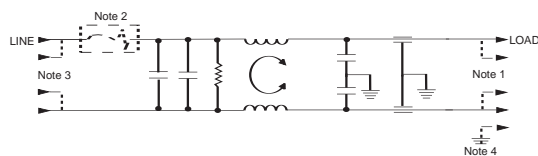
- High performance results out to 3Ghz
- Available only in bulk head (DCB prefix) configuration only
- Can be combined with circuit breaker feature (BF Suffix)

Electrical Schematics

Standard Performance Version



High Frequency Performance Version



Resistor location for reference only.

Note 1: Depicts redundant style 6 terminals.

Note 2: Depicts optional circuit breaker.

Note 3: For 100 & 125A versions delete second coil.

Note 4: Depicts style 10 terminal versions which have separate ground stud.



Specifications

Hipot rating (one minute):

line-to-ground	2250 VDC
line-to-line	1450 VDC

Operating Voltage (max):

80 VDC

Operating Ambient Temperature Range: (@ rated current I_r)

-10°C to +55°C

In an ambient, T_a, higher than +55°C, the maximum operating current, I_O, is as follows: $I_o = I_r \sqrt{\frac{85 - T_a}{30}}$

Minimum insertion loss in dB:

Standard Performance

Line-to-ground in 50 ohm circuit

Current Rating	Frequency-MHz									
	.01	.05	.1	.15	.5	1	3	5	10	30
15A	-	1	12	20	41	45	61	63	47	39
30A	-	4	15	23	47	59	64	56	44	36
60A	-	-	9	17	38	40	59	50	39	34
100A	-	-	10	18	38	39	53	50	35	21
125A	-	-	12	18	30	32	44	49	29	18

Line-to-line in 50 ohm circuit

Current Rating	Frequency-MHz									
	.01	.05	.1	.15	.5	1	3	5	10	30
15A	7	22	27	30	30	36	56	49	38	31
30A	7	22	28	31	32	59	56	51	41	28
60A	15	30	36	40	40	35	60	51	39	32
100A	14	29	35	39	33	30	53	53	41	30
125A	14	24	35	39	40	28	53	60	42	33

High Frequency Performance ("F" & "BF" Styles)

Line-to-ground in 50 ohm circuit

Current Rating	Frequency-MHz										50 to	300 to
	.01	.05	.1	.15	.5	1	3	5	10	20	300	3000
15A	-	1	12	20	41	45	55	50	45	25	50	30
30A	-	4	15	20	46	58	60	60	48	35	50	30
60A	-	-	9	16	38	42	52	60	48	26	40	30
100A	-	-	9	16	38	42	52	60	42	26	40	30
125A	-	-	9	16	28	34	46	54	34	34	40	30

Line-to-line in 50 ohm circuit

Current Rating	Frequency-MHz									
	.01	.05	.1	.15	.5	1	3	5	10	20
15A	7	22	27	30	30	50	60	60	60	36
30A	7	22	27	30	33	56	60	60	60	40
60A	15	30	36	40	37	26	46	54	48	30
100A	14	29	35	39	33	30	56	53	41	30
125A	14	29	35	39	40	28	53	60	42	33

DC Series

Cutout Dimensions

DCB6(F) & DCB10(F)

Part No.	A	B	C
15DCB6(F)	1.375	1.249	3.472
30DCB6(F)	34.93	31.72	88.19
15DCB10(F)	1.250	1.000	3.472
30DCB10(F)	31.75	25.40	88.19
60DCB6(F)	1.375	1.249	3.472
	34.93	31.72	88.19
60DCB10(F)	1.674	1.010	3.443
	42.52	25.65	87.45
100DCB6(F)	1.700	1.549	3.472
125DCB6(F)	43.18	39.34	88.19
100DCB10(F)	1.954	1.500	2.830
	49.63	38.10	71.20
125DCB10(F)	2.250	1.590	2.725
	57.15	40.39	69.22

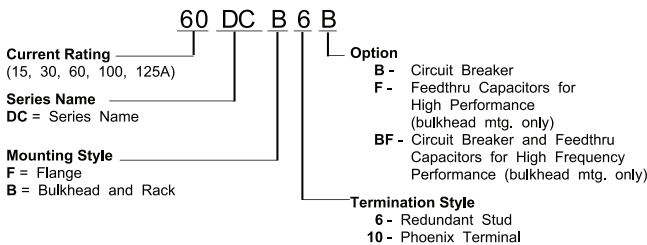
DCB6B(F) & DCB10B(F) – 15 to 60 Amps

Part No.	A	B	C	D	E	F
15DCB6B(F)	1.50	0.781	1.308	3.472	1.375	1.249
15DCF6B	38.10	19.84	33.22	88.19	34.93	31.72
15DCB10B(F)	1.50	0.781	1.308	3.472	1.250	1.000
15DCF10B	38.10	19.84	33.22	88.19	31.75	25.40
30DCB6B(F)	1.50	0.781	1.308	3.472	1.375	1.249
30DCF6B	38.10	19.84	33.22	88.19	34.93	31.72
30DCB10B(F)	1.50	0.781	1.308	3.472	1.250	1.0
30DCF10B	38.10	19.84	33.22	88.19	31.75	25.40
60DCB10B(F)	1.50	0.781	1.308	3.443	1.674	1.010
60DCF10B	38.10	19.84	33.22	87.45	42.52	25.65
60DCF6B(F)	1.50	0.781	1.308	3.472	1.375	1.249
60DCF6B	38.10	19.84	33.22	88.19	34.93	31.72

DCB6B(F) & DCB10B(F) – 100 to 125 Amps

Part No.	A	B	C
100DCB6B(F)			
100DCF6B	1.700	1.549	4.222
125DCB6B(F)	43.18	39.34	107.23
125DCF6B			
100DCB10B(F)	1.954	1.50	4.295
100DCF10B	49.63	38.10	109.09
125DCB10B(F)	2.250	1.590	4.147
	57.15	40.39	105.33
125DCF10B	2.250	1.590	2.725
	57.15	40.39	105.33

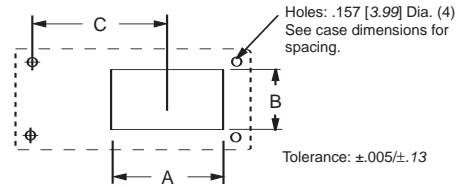
** All cutout dimensions ± .005 [±.13]



Recommended Panel Cutouts

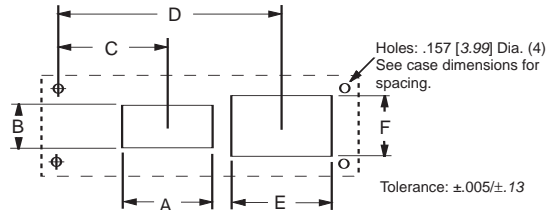
DCB6(F) & DCB10(F)

(Viewed from filter side)



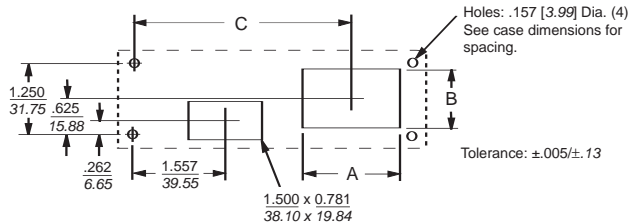
DCB6B(F) & DCB10B(F) – 15 to 60 Amps

(Viewed from filter side)



DCB6B(F) & DCB10B(F) – 100 to 125 Amps

(Viewed from filter side)



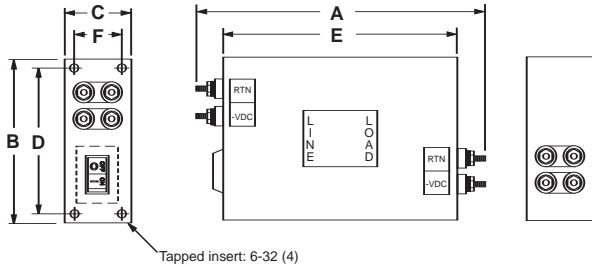
Part Numbers

Standard Performance		High Performance	
15DCF6	15DCF10	15DCB10F	15DCB6F
30DCF6	30DCF10	30DCB10F	30DCB6F
60DCF6	60DCF10	60DCB10F	60DCB6F
100DCF6	100DCF10	100DCB10F	100DCB6F
125DCF6	125DCF10	125DCB10F	125DCB6F
15DCF6B	15DCF10B	15DCB6BF	
30DCF6B	30DCF10B	30DCB6BF	
60DCF6B	60DCF10B	60DCB6BF	
100DCF6B	100DCF10B	100DCB6BF	
125DCF6B	125DCF10B	125DCB6BF	
15DCB6	15DCB10	15DCB10BF	
30DCB6	30DCB10	30DCB10BF	
60DCB6	60DCB10	60DCB10BF	
100DCB6	100DCB10	100DCB10BF	
125DCB6	125DCB10	125DCB10BF	
15DCB6B	15DCB10B		
30DCB6B	30DCB10B		
60DCB6B	60DCB10B		
100DCB6B	100DCB10B		
125DCB6B	125DCB10B		

DC Series

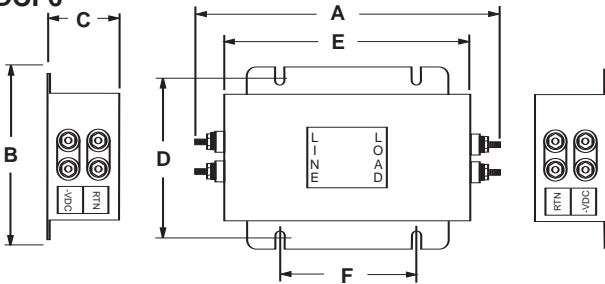
Case Styles

DCB6 & DCB6B



Note: Delete circuit breaker for DCB6 models.

DCF6



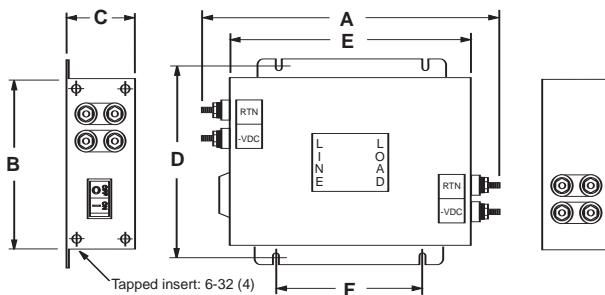
Typical dimensions:

Mounting Slots: .260 x .39 [6.6 x 9.9] (4)

Mounting Holes: .203 x .156 [5.2 x 4.0] (4)

Note: 15A & 30A versions come with mounting holes in place of mounting slots.

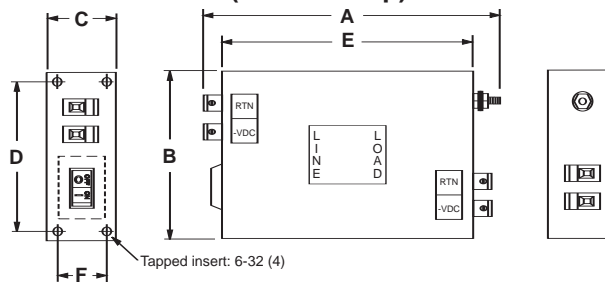
DCF6B



Typical dimensions:

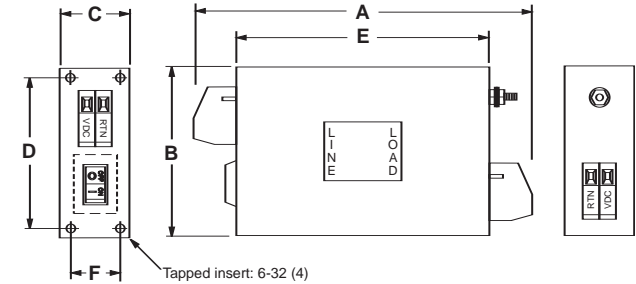
Mounting Slots: .260 x .39 [6.6 x 9.9] (4)

DCB10 & DCB10B (15 & 30 Amp)



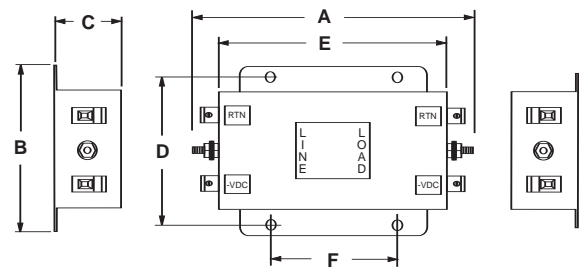
Note: Delete circuit breaker for DCB10 models.

DCB10 & DCB10B (60 to 125 Amp)



Note: Delete circuit breaker for DCB10 models

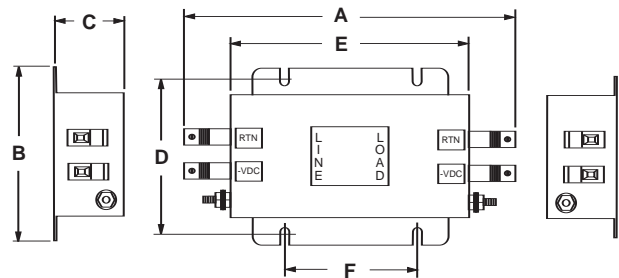
DCF10 (15 & 30 Amp)



Typical dimensions:

Mounting Holes: .156 x .203 [4.0 x 5.2] Dia. (4)

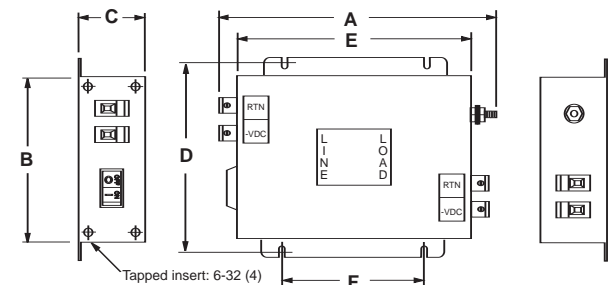
DCF10 (60 to 126 Amps)



Typical dimensions:

Mounting Slots: .260 x .39 [6.6 x 9.9] (4)

DCF10B (15 & 30 Amp)



Typical dimensions:

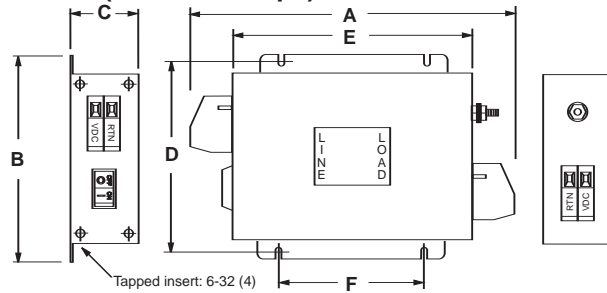
Mounting Slots: .260 x .39 [6.6 x 9.9] (4)

RFI Power Line Filters for DC Applications (Continued)

DC Series

Case Styles (continued)

DCF10B (60 to 125 Amps)



Typical dimensions:
Mounting Slots: .260 x .39 [6.6 x 9.9] (4)

Case Dimensions

Part Number	A (max)	B (max)	C (max)	D *	E (max)	F *
15DCB6(F)	5.69 144.5	5.06 128.5	1.48 37.6	4.50 114.3	4.06 103.1	0.950 24.13
15DCB6B(F)	7.69 195.3	5.06 128.5	1.48 37.6	4.50 114.3	6.06 153.9	0.950 24.13
15DCB10(F)	5.06 128.5	5.06 128.5	1.48 37.6	4.50 114.3	4.06 103.1	0.950 24.13
15DCB10B(F)	7.06 179.3	5.06 128.5	1.48 37.6	4.50 114.3	6.06 153.9	0.950 24.13
15DCF6	5.33 135.4	3.10 78.7	1.78 45.2	2.677 68.0	3.70 94.0	2.00 50.80
15DCF6B(F)	7.69 195.3	5.06 128.5	1.48 37.6	5.740 145.8	6.06 153.9	3.52 89.41
15DCF10	4.75 120.7	3.10 78.7	1.78 45.2	2.677 68.0	3.70 94.0	2.0 50.8
15DCF10B(F)	7.06 179.3	5.06 128.5	1.48 37.6	5.740 145.80	6.06 153.9	3.520 89.41
30DCB6(F)	7.69 195.3	5.06 128.5	1.48 37.6	4.50 114.3	6.06 153.9	0.95 24.13
30DCB6B(F)	8.69 220.7	5.06 128.5	1.48 37.6	4.50 114.3	7.06 179.3	0.95 24.13
30DCB10(F)	7.06 179.3	5.06 128.5	1.48 37.6	4.50 114.3	6.06 153.9	0.95 24.13
30DCB10B(F)	8.06 204.7	5.06 128.5	1.48 37.6	4.50 114.3	7.06 179.3	0.95 24.13
30DCF6	6.19 157.2	3.96 100.6	2.18 55.4	3.50 88.9	4.56 115.8	2.00 50.8
30DCF6B	8.69 220.73	5.0 127.0	1.48 37.6	5.74 145.8	7.06 179.3	4.52 114.81
30DCF10	5.56 141.2	3.96 100.58	2.18 55.4	3.5 88.9	4.56 115.8	2.0 50.8
30DCF10B	8.06 204.7	5.06 128.52	1.48 37.6	5.74 145.8	7.06 179.3	4.52 114.81
60DCB6(F)	8.69 220.73	5.06 128.52	1.48 37.6	4.50 114.3	7.06 179.3	0.95 24.13
60DCB6B(F)	10.69 271.5	5.06 128.52	1.48 37.6	4.50 114.3	9.06 230.1	0.95 24.13
60DCF6	7.56 192.0	5.48 139.2	2.55 64.8	4.92 124.97	5.94 150.9	2.756 70.0
60DCF6B	10.69 271.5	5.06 128.52	1.48 37.6	5.74 145.8	9.06 230.1	6.52 165.61

Case Dimensions (cont'd)

Part Number	A (max)	B (max)	C (max)	D *	E (max)	F *
60DCF10	8.56 217.4	5.48 139.2	2.55 64.8	4.92 124.97	5.94 150.9	2.576 65.43
60DCF10B	11.75 298.5	5.06 128.5	1.48 37.6	5.74 145.8	9.06 230.1	6.52 165.61
100DCB6(F)	10.31 261.9	5.06 128.5	1.78 45.2	4.50 114.3	8.06 204.7	1.25 31.75
100DCB6B(F)	12.31 312.7	6.06 153.9	1.78 45.2	5.50 139.7	10.06 255.5	1.25 31.75
100DCB10(F)	11.13 282.6	5.06 128.5	1.78 45.2	4.50 114.3	8.06 204.7	1.25 31.75
100DCB10B(F)	13.13 333.5	6.06 153.9	1.78 45.2	5.50 139.7	10.06 255.5	1.25 31.75
100DCF6	10.60 269.2	6.30 160.0	2.52 64.0	5.70 144.78	8.46 214.9	4.52 114.81
100DCF6B	12.31 312.7	6.06 153.9	1.78 45.2	6.74 171.2	10.06 255.5	7.52 191.01
100DCF10	11.50 292.1	6.30 160.0	2.52 64.0	5.70 144.78	8.46 214.9	4.52 114.81
100DCF10B	13.13 333.5	6.06 153.9	1.78 45.2	6.74 171.2	10.06 255.5	7.52 191.01
125DCB6(F)	10.31 261.9	5.06 128.5	1.78 45.2	4.50 114.3	8.06 204.7	1.25 31.75
125DCB6B(F)	12.31 312.7	6.06 153.9	1.78 45.2	5.50 139.7	10.06 255.5	1.25 31.75
125DCB10(F)	11.50 292.1	5.06 128.5	1.78 45.2	4.50 114.30	8.06 204.7	1.25 31.75
125DCB10B(F)	13.50 342.9	6.06 153.9	1.78 45.2	5.50 139.7	10.06 255.5	1.25 31.75
125DCF6	10.60 269.2	6.30 160.0	2.52 64.0	5.70 144.78	8.46 214.9	4.52 114.81
125DCF6B	12.31 312.7	6.06 153.9	1.78 45.2	6.74 171.2	10.06 255.5	7.52 191.01
125DCF10	11.86 301.2	6.30 160.0	2.52 64.0	5.70 144.78	8.46 214.9	4.52 114.81
125DCF10B	13.50 342.9	6.06 153.9	1.78 45.2	6.74 171.2	10.06 255.5	7.52 191.01

* ±.020 [±.51]

Terminations

Style 6 (15, 30 & 60A)

Supplied with #10-32 redundant studs - 0.625 [15.88] spacing like polarity, 0.750 [19.05] spacing opposing polarity.

Torque Spec: 27±3 in-lb.

Style 10 (15 & 30A)

Phoenix Contact
Part No. VDFK4
Accepts 12 AWG stranded wire
Wire Strip Length: 0.315 [8.0]
Torque Spec: 5.5 - 7.0 in-lb.
Ground Stud 8-32

Style 10 (100A)

Phoenix Contact
Part No. HDFK 25-VP
Accepts 4 AWG stranded wire
Wire Strip Length: 0.748 [19.0]
Torque Spec: 35.4 - 39.9 in-lb.
Ground Stud 1/4 - 20

Style 6 (100 & 125A)

Supplied with 1/4-20 redundant studs - 0.750 [19.05] spacing like polarity, 1.000 [25.4] spacing opposing polarity.

Torque Spec: 45±2 in-lb.

Style 10 (60A)

Phoenix Contact
Part No. HDFK 16-VP
Accepts 6 AWG stranded wire
Wire Strip Length: 0.630 [16.0]
Torque Spec: 17.7 - 21.2 in-lb.
Ground Stud 10-32

Style 10 (125A)

Phoenix Contact
Part No. HDFK-50-VP
Accepts 1 AWG stranded wire
Wire Strip Length: 0.945 [24.0]
Torque Spec: 35.4 - 39.9 in-lb.
Ground Stud 1/4 - 20

DC Filters