

DC Series

RFI Power Line Filters Line Filters for DC Applications



UL Recognized †
CSA Certified †
TUV Approved *†

* Approvals pending

† Approvals pending 100 & 125A DCB6B(F) and 100 & 125A DCF6B versions

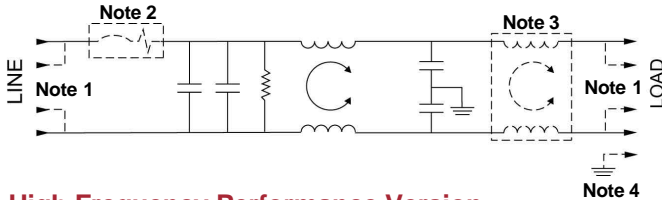
DC Series

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.

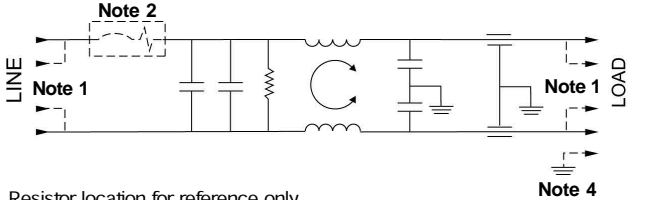
The DC series was developed in response to the increasing demand for DC filtering in the telecom-datacom market. These filters are generally used in central office equipment like switches, routers, and hubs to clean up the 48 VDC power, but are not exclusive to that equipment. They can also be used at the primary input of the DC power supply.

Electrical Schematics

Standard Performance Version



High Frequency Performance Version



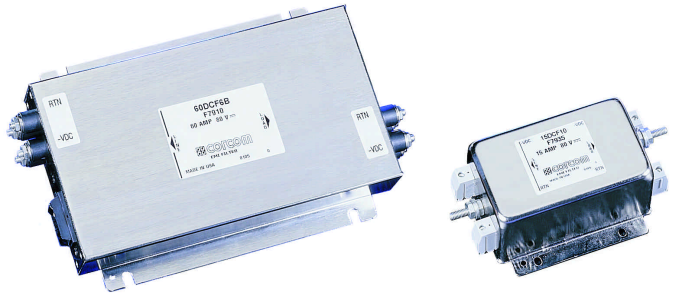
Resistor location for reference only.

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 2250VDC
line-to-line 1450VDC

Operating Voltage (max):

80VDC

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

Line-to-ground in 50 ohm circuit

Current Rating	Frequency-MHz											
	.01	.05	.1	.15	.5	1	3	5	10	20	50 to 300	300 to 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

Cutout Dimensions

Metric shown in italics.

Part Number	A <i>±.005</i> <i>±.13</i>	B <i>±.005</i> <i>±.13</i>	C <i>±.005</i> <i>±.13</i>	D <i>±.005</i> <i>±.13</i>	E <i>±.005</i> <i>±.13</i>	F <i>±.005</i> <i>±.13</i>	Fig.
15DCB6(F)	<u>1.375</u> <i>34.93</i>	<u>1.249</u> <i>31.72</i>	<u>3.472</u> <i>88.19</i>				1
15DCB6B(F), 15DCF6B	<u>1.500</u> <i>38.10</i>	<u>0.781</u> <i>19.84</i>	<u>1.308</u> <i>33.22</i>	<u>3.472</u> <i>88.19</i>	<u>1.375</u> <i>34.93</i>	<u>1.249</u> <i>31.72</i>	2
15DCB10(F)	<u>1.250</u> <i>31.75</i>	<u>1.000</u> <i>25.40</i>	<u>3.472</u> <i>88.19</i>				1
15DCB10B(F), 15DCF10B	<u>1.500</u> <i>38.10</i>	<u>0.781</u> <i>19.84</i>	<u>1.308</u> <i>33.22</i>	<u>3.472</u> <i>88.19</i>	<u>1.250</u> <i>31.75</i>	<u>1.000</u> <i>25.40</i>	2
30DCB6(F)	<u>1.375</u> <i>34.93</i>	<u>1.249</u> <i>31.72</i>	<u>3.472</u> <i>88.19</i>				1
30DCB6B(F), 30DCF6B	<u>1.500</u> <i>38.10</i>	<u>0.781</u> <i>19.84</i>	<u>1.308</u> <i>33.22</i>	<u>3.472</u> <i>88.19</i>	<u>1.375</u> <i>34.93</i>	<u>1.249</u> <i>31.72</i>	2
30DCB10(F)	<u>1.250</u> <i>31.75</i>	<u>1.000</u> <i>25.40</i>	<u>3.472</u> <i>88.19</i>				1
30DCB10B(F), 30DCF10B	<u>1.500</u> <i>38.10</i>	<u>0.781</u> <i>19.84</i>	<u>1.308</u> <i>33.22</i>	<u>3.472</u> <i>88.19</i>	<u>1.250</u> <i>31.75</i>	<u>1.000</u> <i>25.40</i>	2
60DCB6(F)	<u>1.375</u> <i>34.93</i>	<u>1.249</u> <i>31.72</i>	<u>3.472</u> <i>88.19</i>				1
60DCB6B(F), 60DCF6B	<u>1.500</u> <i>38.10</i>	<u>0.781</u> <i>19.84</i>	<u>1.308</u> <i>33.22</i>	<u>3.472</u> <i>88.19</i>	<u>1.375</u> <i>34.93</i>	<u>1.249</u> <i>31.72</i>	2
60DCB10(F)	<u>1.250</u> <i>31.75</i>	<u>1.000</u> <i>25.40</i>	<u>3.472</u> <i>88.19</i>				1
60DCB10B(F), 60DCF10B	<u>1.500</u> <i>38.10</i>	<u>0.781</u> <i>19.84</i>	<u>1.308</u> <i>33.22</i>	<u>3.472</u> <i>88.19</i>	<u>1.250</u> <i>31.75</i>	<u>1.000</u> <i>25.40</i>	2
100DCB6(F)	<u>1.700</u> <i>43.18</i>	<u>1.549</u> <i>39.34</i>	<u>3.472</u> <i>88.19</i>				1
100DCB6B(F)	<u>1.700</u> <i>43.18</i>	<u>1.549</u> <i>39.34</i>	<u>4.222</u> <i>107.23</i>				3
100DCB10(F)	<u>1.954</u> <i>49.63</i>	<u>1.500</u> <i>38.10</i>	<u>2.803</u> <i>71.20</i>				1
100DCB10B(F)	<u>1.954</u> <i>49.63</i>	<u>1.500</u> <i>38.10</i>	<u>4.295</u> <i>109.09</i>				3
100DCF6B	<u>1.700</u> <i>43.18</i>	<u>1.549</u> <i>39.34</i>	<u>4.222</u> <i>107.23</i>				3
100DCF10B	<u>1.954</u> <i>49.63</i>	<u>1.500</u> <i>38.10</i>	<u>4.295</u> <i>109.09</i>				3
125DCB6(F)	<u>1.700</u> <i>43.18</i>	<u>1.549</u> <i>39.34</i>	<u>3.472</u> <i>88.19</i>				1
125DCB6B(F)	<u>1.700</u> <i>43.18</i>	<u>1.549</u> <i>39.34</i>	<u>4.222</u> <i>107.23</i>				3
125DCB10(F)	<u>2.250</u> <i>57.15</i>	<u>1.590</u> <i>40.39</i>	<u>2.725</u> <i>69.22</i>				1
125DCB10B(F)	<u>2.250</u> <i>57.15</i>	<u>1.590</u> <i>40.39</i>	<u>4.147</u> <i>105.33</i>				3
125DCF6B	<u>1.700</u> <i>43.18</i>	<u>1.549</u> <i>39.34</i>	<u>4.222</u> <i>107.23</i>				3
125DCF10B	<u>2.250</u> <i>57.15</i>	<u>1.590</u> <i>40.39</i>	<u>2.725</u> <i>69.22</i>				3

Recommended Panel Cutouts

Fig. 1 (Viewed from filter side)

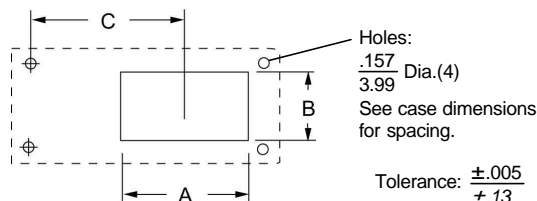


Fig. 2 (Viewed from filter side)

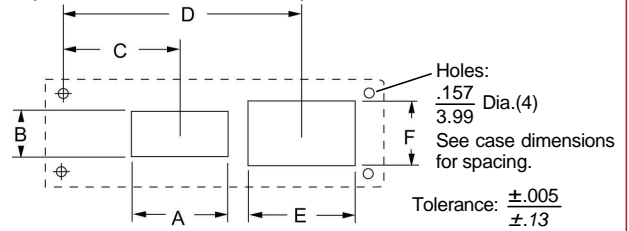
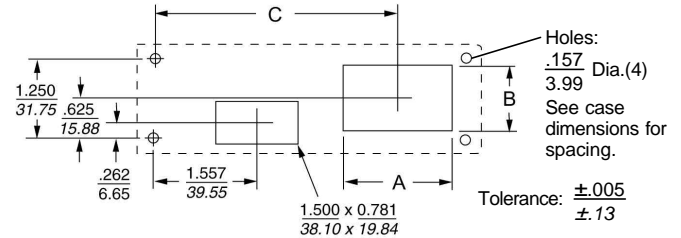


Fig. 3 (Viewed from filter side)



Ordering Information

Consult your local Corcom sales representative for pricing

60DCB6B

Current Rating

15, 30, 60, 100, 125A

Series Name

DC - Series Name

Mounting Style

F - Flange Mounting

B - Bulkhead and Rack Mounting

Termination Style

6 - Redundant Stud

10 - Phoenix Terminal

Options

B - Circuit Breaker

F - Feedthru Capacitors for High Frequency Performance (Bulkhead mounting only)

BF - Circuit Breaker and Feedthru Capacitors for High Frequency Performance (Bulkhead mounting only)

Available Part Numbers

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

Terminations

Style 6 (15, 30 & 60A)

Supplied with #10-32 redundant studs - 0.625" spacing like polarity, 0.750" spacing opposing polarity.

Style 6 (100 & 125A)

Supplied with 1/4-20 redundant studs - 0.75" spacing like polarity, 1.000" spacing opposing polarity.

Style 10 (15 & 30A)

Phoenix Contact P/N VDFK 4
Accepts 12 AWG stranded wire
Wire Strip Length: 0.315" (8mm)
Torque Spec: 5.5 - 7.0 in-lb.
Ground Stud 8-32

Style 10 (60A)

Phoenix Contact P/N HDFK 16-VP
Accepts 6 AWG stranded wire
Wire Strip Length: 0.630" (16mm)
Torque Spec: 17.7 - 21.2 in-lb.
Ground Stud 10-32

Style 10 (100A)

Phoenix Contact P/N HDFK 25-VP
Accepts 4 AWG stranded wire
Wire Strip Length: 0.748" (19mm)
Torque Spec: 35.4 - 39.9 in-lb.
Ground Stud 1/4 - 20

Style 10 (125A)

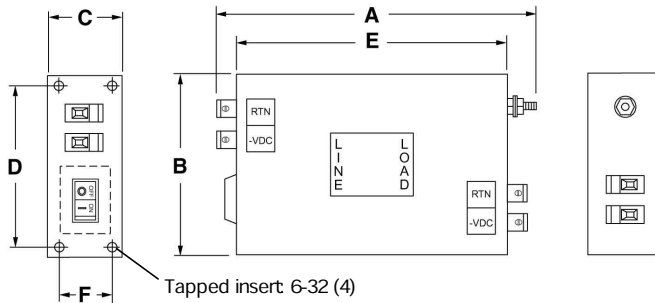
Phoenix Contact P/N HDFK 50-VP
Accepts 1 AWG stranded wire
Wire Strip Length: 0.945" (24mm)
Torque Spec: 35.4 - 39.9 in-lb.
Ground Stud 1/4 - 20

DC Series

Case Style

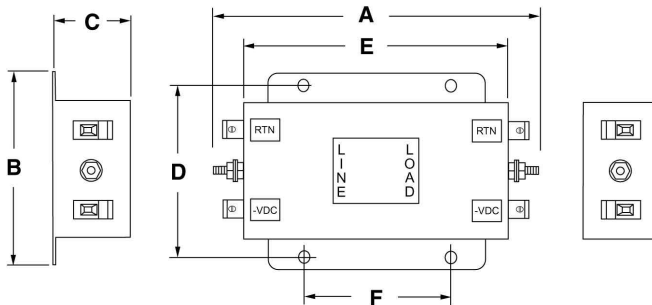
Metric shown in italics.

Fig. 4



Note: Delete circuit breaker for DCB10 models

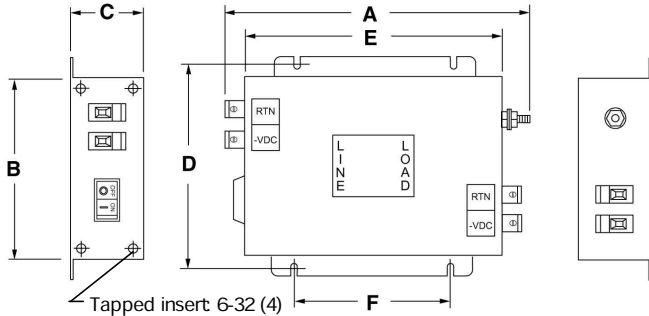
Fig. 5



Typical dimensions

Mounting holes: $\frac{.156 \times .203}{4.0 \times 5.2}$ (4)

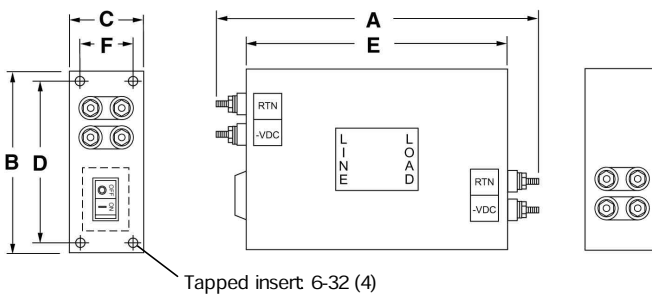
Fig. 6



Typical dimensions

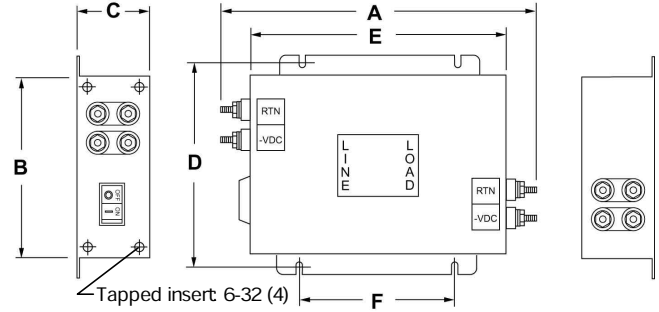
Mounting slots: $\frac{.260 \times .39}{6.6 \times 9.9}$ (4)

Fig. 7



Note: Delete circuit breaker for DCB6 models

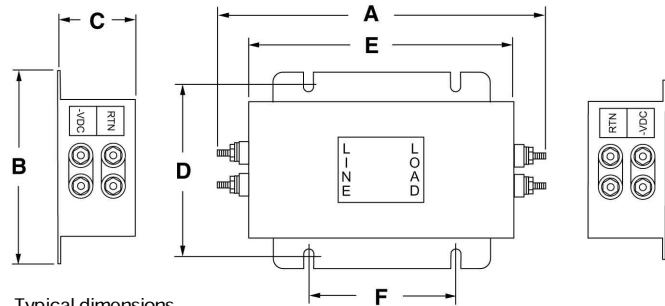
Fig. 8



Typical dimensions

Mounting slots: $\frac{.260 \times .39}{6.6 \times 9.9}$ (4)

Fig. 9

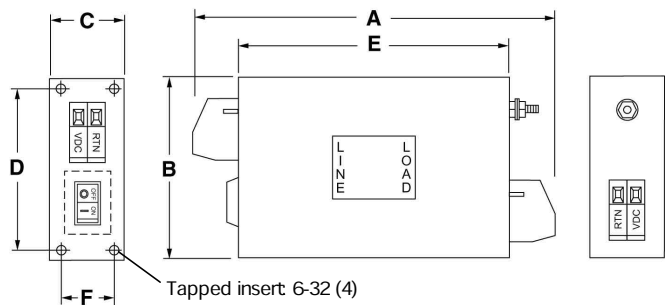


Typical dimensions

Mounting slots: $\frac{.260 \times .39}{6.6 \times 9.9}$ (4) Mounting holes: $\frac{.203 \times .156}{5.2 \times 4.0}$ (4)

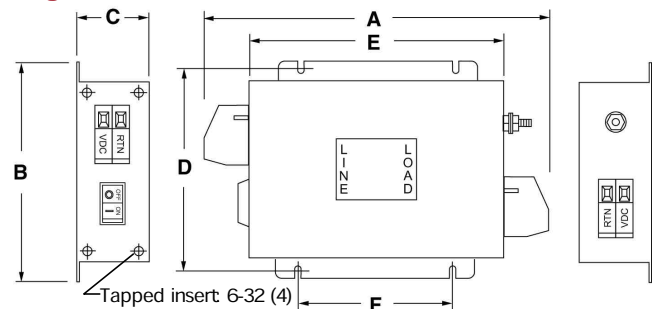
Note: 15A & 30A versions come with mounting holes in place of mounting slots.

Fig. 10



Note: Delete circuit breaker for DCB10 models

Fig. 11



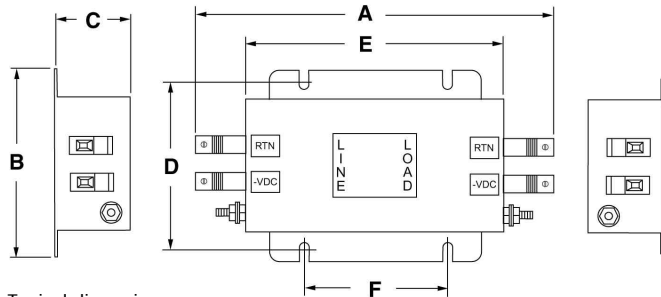
Typical dimensions

Mounting slots: $\frac{.260 \times .39}{6.6 \times 9.9}$ (4)

Case Style

Metric shown in italics.

Fig. 12



Typical dimensions
Mounting slots: $\frac{.260 \times .39}{6.6 \times 9.9}$ (4)

Case Dimensions

Metric shown in italics.

Part Number	A (max)	B (max)	C (max)	D $\pm .020$ $\pm .51$	E (max)	F $\pm .020$ $\pm .51$	Fig.
15DCB6(F)	<u>5.69</u> 144.5	<u>5.06</u> 128.5	<u>1.46</u> 37.0	<u>4.500</u> 114.30	<u>4.06</u> 103.1	<u>0.950</u> 24.13	7
15DCB6B(F)	<u>7.69</u> 195.3	<u>5.06</u> 128.5	<u>1.46</u> 37.0	<u>4.500</u> 114.30	<u>6.06</u> 153.9	<u>0.950</u> 24.13	7
15DCB10(F)	<u>5.06</u> 128.5	<u>5.06</u> 128.5	<u>1.46</u> 37.0	<u>4.500</u> 114.30	<u>4.06</u> 103.1	<u>0.950</u> 24.13	4
15DCB10B(F)	<u>7.06</u> 179.3	<u>5.06</u> 128.5	<u>1.46</u> 37.0	<u>4.500</u> 114.30	<u>6.06</u> 153.9	<u>0.950</u> 24.13	4
15DCF6	<u>5.33</u> 135.4	<u>3.10</u> 78.7	<u>1.78</u> 45.2	<u>2.677</u> 68.00	<u>3.70</u> 94.0	<u>2.000</u> 50.80	9
15DCF6B(F)	<u>7.69</u> 195.3	<u>5.06</u> 128.5	<u>1.46</u> 37.0	<u>5.740</u> 145.80	<u>6.06</u> 153.9	<u>3.520</u> 89.41	8
15DCF10	<u>4.75</u> 120.7	<u>3.10</u> 78.7	<u>1.78</u> 45.2	<u>2.677</u> 68.0	<u>3.70</u> 94.0	<u>2.000</u> 50.80	5
15DCF10B(F)	<u>7.06</u> 179.3	<u>5.06</u> 128.5	<u>1.46</u> 37.0	<u>5.740</u> 145.80	<u>6.06</u> 153.9	<u>3.520</u> 89.41	6
30DCB6(F)	<u>7.69</u> 195.3	<u>5.06</u> 128.5	<u>1.46</u> 37.0	<u>4.500</u> 114.30	<u>6.06</u> 153.9	<u>0.950</u> 24.13	7
30DCB6B(F)	<u>8.69</u> 220.7	<u>5.06</u> 128.5	<u>1.46</u> 37.0	<u>4.500</u> 114.30	<u>7.06</u> 179.3	<u>0.950</u> 24.13	7
30DCB10(F)	<u>7.06</u> 179.3	<u>5.06</u> 128.5	<u>1.46</u> 37.0	<u>4.500</u> 114.30	<u>6.06</u> 153.9	<u>0.950</u> 24.13	4
30DCB10B(F)	<u>8.06</u> 204.7	<u>5.06</u> 128.5	<u>1.46</u> 37.0	<u>4.500</u> 114.30	<u>7.06</u> 179.3	<u>0.950</u> 24.13	4
30DCF6	<u>6.19</u> 157.2	<u>3.96</u> 100.6	<u>2.18</u> 55.4	<u>3.500</u> 88.90	<u>4.56</u> 115.8	<u>2.000</u> 50.80	9
30DCF6B	<u>8.69</u> 220.7	<u>5.00</u> 127.0	<u>1.46</u> 37.0	<u>5.740</u> 145.80	<u>7.06</u> 179.3	<u>4.520</u> 114.81	8
30DCF10	<u>5.56</u> 141.2	<u>3.96</u> 100.6	<u>2.18</u> 55.4	<u>3.500</u> 88.90	<u>4.56</u> 115.8	<u>2.000</u> 50.80	5
30DCF10B	<u>8.06</u> 204.7	<u>5.06</u> 128.5	<u>1.46</u> 37.0	<u>5.740</u> 145.80	<u>7.06</u> 179.3	<u>4.520</u> 114.81	6
60DCB6(F)	<u>8.69</u> 220.7	<u>5.06</u> 128.5	<u>1.46</u> 37.0	<u>4.500</u> 114.30	<u>7.06</u> 179.3	<u>0.950</u> 24.13	7
60DCB6B(F)	<u>10.69</u> 271.5	<u>5.06</u> 128.5	<u>1.46</u> 37.0	<u>4.500</u> 114.30	<u>9.06</u> 230.1	<u>0.950</u> 24.13	7
60DCB10(F)	<u>9.75</u> 247.7	<u>5.06</u> 128.5	<u>1.46</u> 37.0	<u>4.500</u> 114.30	<u>7.06</u> 179.3	<u>0.950</u> 24.13	10
60DCB10B(F)	<u>11.75</u> 298.5	<u>5.06</u> 128.5	<u>1.46</u> 37.0	<u>4.500</u> 114.30	<u>9.06</u> 230.1	<u>0.950</u> 24.13	10
60DCF6	<u>7.56</u> 192.0	<u>5.48</u> 139.2	<u>2.55</u> 64.8	<u>4.920</u> 124.97	<u>5.94</u> 150.9	<u>2.756</u> 70.00	9

Case Dimensions

Metric shown in italics.

Part Number	A (max)	B (max)	C (max)	D $\pm .020$ $\pm .51$	E (max)	F $\pm .020$ $\pm .51$	Fig.
60DCF6B	<u>10.69</u> 271.5	<u>5.06</u> 128.5	<u>1.46</u> 37.0	<u>5.740</u> 145.80	<u>9.06</u> 230.1	<u>6.520</u> 165.61	8
60DCF10	<u>8.56</u> 217.4	<u>5.48</u> 139.2	<u>2.55</u> 64.8	<u>4.920</u> 124.97	<u>5.94</u> 150.9	<u>2.576</u> 65.43	12
60DCF10B	<u>11.75</u> 298.5	<u>5.06</u> 128.5	<u>1.46</u> 37.0	<u>5.740</u> 145.80	<u>9.06</u> 230.1	<u>6.520</u> 165.61	11
100DCB6(F)	<u>10.31</u> 261.9	<u>5.06</u> 128.5	<u>1.78</u> 45.2	<u>4.500</u> 114.30	<u>8.06</u> 204.7	<u>1.250</u> 31.75	7
100DCB6B(F)	<u>12.31</u> 312.7	<u>6.06</u> 153.9	<u>1.78</u> 45.2	<u>5.500</u> 139.7	<u>10.06</u> 255.5	<u>1.250</u> 31.75	7
100DCB10(F)	<u>11.13</u> 282.6	<u>5.06</u> 128.5	<u>1.78</u> 45.2	<u>4.500</u> 114.30	<u>8.06</u> 204.7	<u>1.250</u> 31.75	10
100DCB10B(F)	<u>13.13</u> 333.5	<u>6.06</u> 153.9	<u>1.78</u> 45.2	<u>5.500</u> 139.7	<u>10.06</u> 255.5	<u>1.250</u> 31.75	10
100DCF6	<u>10.60</u> 269.2	<u>6.30</u> 160.0	<u>2.52</u> 64.0	<u>5.700</u> 144.78	<u>8.46</u> 214.9	<u>4.520</u> 114.81	9
100DCF6B	<u>12.31</u> 312.7	<u>6.06</u> 153.9	<u>1.78</u> 45.2	<u>6.740</u> 171.2	<u>10.06</u> 255.5	<u>7.520</u> 191.01	8
100DCF10	<u>11.50</u> 292.1	<u>6.30</u> 160.0	<u>2.52</u> 64.0	<u>5.700</u> 144.78	<u>8.46</u> 214.9	<u>4.520</u> 114.81	12
100DCF10B	<u>13.13</u> 333.5	<u>6.06</u> 153.9	<u>1.78</u> 45.2	<u>6.740</u> 171.2	<u>10.06</u> 255.5	<u>7.520</u> 191.01	11
125DCB6(F)	<u>10.31</u> 261.9	<u>5.06</u> 128.5	<u>1.78</u> 45.2	<u>4.500</u> 114.30	<u>8.06</u> 204.7	<u>1.250</u> 31.75	7
125DCB6B(F)	<u>12.31</u> 312.7	<u>6.06</u> 153.9	<u>1.78</u> 45.2	<u>5.500</u> 139.7	<u>10.06</u> 255.5	<u>1.250</u> 31.75	7
125DCB10(F)	<u>11.50</u> 292.1	<u>5.06</u> 128.5	<u>1.78</u> 45.2	<u>4.500</u> 114.30	<u>8.06</u> 204.7	<u>1.250</u> 31.75	10
125DCB10B(F)	<u>13.50</u> 342.9	<u>6.06</u> 153.9	<u>1.78</u> 45.2	<u>5.500</u> 139.7	<u>10.06</u> 255.5	<u>1.250</u> 31.75	10
125DCF6	<u>10.60</u> 269.2	<u>6.30</u> 160.0	<u>2.52</u> 64.0	<u>5.700</u> 144.78	<u>8.46</u> 214.9	<u>4.520</u> 114.81	9
125DCF6B	<u>12.31</u> 312.7	<u>6.06</u> 153.9	<u>1.78</u> 45.2	<u>6.740</u> 171.2	<u>10.06</u> 255.5	<u>7.520</u> 191.01	8
125DCF10	<u>11.86</u> 301.2	<u>6.30</u> 160.0	<u>2.52</u> 64.0	<u>5.700</u> 144.78	<u>8.46</u> 214.9	<u>4.520</u> 114.81	12
125DCF10B	<u>13.50</u> 342.9	<u>6.06</u> 153.9	<u>1.78</u> 45.2	<u>6.740</u> 171.2	<u>10.06</u> 255.5	<u>7.520</u> 191.01	11