

DC Feedthrough Capacitors - Class Y4

DFC Series



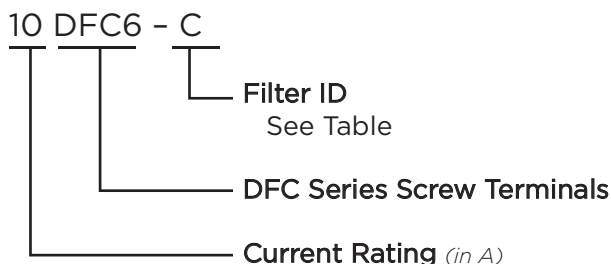
Component Recognized by
UL to US and Canadian Requirements



DFC Series

- DC feedthrough capacitors
- Current ratings from 10 to 300A
- Designed to meet the very stringent safety requirements of EN132400 class Y4 including the 2500V pulse test
- Custom versions available

Ordering Information



Filter Options / Specifications

| Filter ID | Value (nF) |
|-----------|------------|
| C | 10 |
| G | 47 |
| H | 100 |
| N | 470 |
| P | 1000 |
| Q | 3300 |
| R | 4700 |
| T | 8000 |

Specifications

- Rated Voltage (max):** 130 VDC
- Rated Current:** 10 to 300A
- Test Voltage (two seconds):** 2500 VDC
- Capacitor Class (EN132400):** Designed to meet Y4
- Pulse Test (EN132400):** 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 200A: -40°C to +60°C
 250 & 300A: -40°C to +40°C
- Category Temperature Range:** -40°C to +85°C
- Current Derating Above Ambient:**
 10-200A: For temperature, θ $I_{\theta} = IR \sqrt{(85-\theta)/25}$
 250 & 300A: For temp., θ $I_{\theta} = IR \sqrt{(85-\theta)/45}$
- Climatic Category:** 40/85/21
- MTBF:** > 10 million hours typical
- Insulating Materials Flammability Rating:** UL94V-0
- Case & Terminal Material:** Nickel Plated Brass

DC Feedthrough Capacitors - Class Y4 (continued)

DFC Series

Case Style



T1 - Terminal Thread

| Part No. | Thread | Torque max. in.lb. |
|-----------------|--------|--------------------|
| 10DFC6-C | M3 | 4 |
| 16DFC6-C/G/H/N | M4 | 11 |
| 32DFC6-C/G/H/N | M4 | 11 |
| 63DFC6-C/G/H/N | M6 | 22 |
| 100FDC6-G/H/N/P | M8 | 44 |
| 200DFC6-H/N/P/R | M10 | 71 |
| 250DFC6-P/Q/T | M12 | 97 |
| 300DFC6-P/Q/T | M16 | 177 |

T2 - Mounting Thread

| Part No. | Thread | Torque max. in.lb. |
|---------------|-----------|--------------------|
| 10DFC6-C | M10 x 1 | 27 |
| 16DFC6-C/G/H | M12 x 1 | 35 |
| 32DFC6-C/G/H | M12 x 1 | 35 |
| 63DFC6-C/G/H | M16 x 1 | 62 |
| 16DFC6-N | M20 x 1 | 89 |
| 32DFC6-N | M20 x 1 | 89 |
| 63DFC6-N | M20 x 1 | 89 |
| 100DFC6-G/H/N | M24 x 1 | 124 |
| 100DFC6-P | M24 x 1 | 124 |
| 200DFC6-H/N/P | M24 x 1 | 124 |
| 200FFC6-R | M27 x 1.5 | 142 |

Case Dimensions

| Part No. | A | B | C | D | E | F |
|-----------|--------------------|----------------------|--------------------|--------------------|--------------------|------------|
| | $\frac{\pm.04}{1}$ | $\frac{\pm.02}{0.5}$ | $\frac{\pm.08}{2}$ | $\frac{\pm.04}{1}$ | $\frac{\pm.08}{2}$ | (max) |
| 10DFC6-C | 2.24 57 | 0.59 15 | 0.71 18 | 0.39 10 | 0.63 16 | 0.51 13 |
| 16DFC6-C | 2.48 63 | 0.79 20 | 0.71 18 | 0.47 12 | 0.71 18 | 0.67 17 |
| 16DFC6-G | 2.95 | 0.79 | 1.18 | 0.47 | 0.71 | 0.67 |
| 16DFC6-H | 75 | 20 | 30 | 12 | 18 | 17 |
| 16DFC6-N | 3.23 82 | 1.26 32 | 1.30 33 | 0.63 16 | 0.71 18 | 1.06 27 |
| 32DFC6-C | 2.48 63 | 0.79 20 | 0.71 18 | 0.47 12 | 0.71 18 | 0.67 17 |
| 32DFC6-G | 2.95 | 0.79 | 1.18 | 0.47 | 0.71 | 0.67 |
| 32DFC6-H | 75 | 20 | 30 | 12 | 18 | 17 |
| 32DFC6-N | 3.23 82 | 1.26 32 | 1.30 33 | 0.63 16 | 0.71 18 | 1.06 27 |
| 63DFC6-C | 3.78 | 0.98 | 1.18 | 0.55 | 1.02 | 0.87 |
| 63DFC6-G | 96 | 25 | 30 | 14 | 26 | 22 |
| 63DFC6-H | 3.98 | 1.26 | 1.30 | 0.63 | 1.02 | 1.06 |
| 63DFC6-N | 101 | 32 | 33 | 16 | 26 | 27 |
| 100DFC6-G | 4.45 | 1.26 | 1.30 | 0.63 | 1.26 | 1.06 |
| 100DFC6-H | 113 | 32 | 33 | 16 | 32 | 27 |
| 100DFC6-N | 5.24 133 | 1.50 38 | 1.97 50 | 0.75 19 | 1.26 32 | 1.06 27 |
| 100DFC6-P | 5.24 133 | 1.50 38 | 1.97 50 | 0.75 19 | 1.26 32 | 1.06 27 |
| 200DFC6-H | 5.12 | 1.26 | 1.30 | 0.75 | 1.57 | 1.06 |
| 200DFC6-N | 130 | 32 | 33 | 19 | 40 | 27 |
| 200DFC6-P | 5.79 147 | 1.50 38 | 1.97 50 | 0.75 19 | 1.57 40 | 1.06 27 |
| 200DFC6-R | 6.50 165 | 2.13 54 | 2.68 68 | 0.75 19 | 1.57 40 | 1.57 40 |
| 250DFC6-P | 5.83 | 2.13 | 1.65 | 0.75 | 1.81 | 1.57 |
| 300DFC6-P | 148 | 54 | 42 | 19 | 46 | 40 |
| 250DFC6-Q | 6.30 | 2.13 | 2.13 | 0.75 | 1.81 | 1.57 |
| 300DFC6-Q | 160 | 54 | 54 | 19 | 46 | 40 |
| 250DFC6-T | 7.01 | 2.13 | 2.83 | 0.75 | 1.81 | 1.57 |
| 300DFC6-T | 178 | 54 | 72 | 19 | 46 | 40 |

DC Feedthrough Capacitors - Class Y4 *(continued)*

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Available Part Numbers

| | | | |
|----------|-----------|-----------|-----------|
| 10DFC6-C | 32DFC6-H | 100DFC6-H | 250DFC6-P |
| 16DFC6-C | 32DFC6-N | 100DFC6-N | 250DFC6-Q |
| 16DFC6-G | 63DFC6-C | 100DFC6-P | 250DFC6-T |
| 16DFC6-H | 63DFC6-G | 200DFC6-H | 300DFC6-P |
| 16DFC6-N | 63DFC6-H | 200DFC6-N | 300DFC6-Q |
| 32DFC6-C | 63DFC6-N | 200DFC6-P | 300DFC6-T |
| 32DFC6-G | 100DFC6-G | 200DFC6-R | |

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 |
| C | - | - | - | - | 3 | 21 | 45 | 70 |
| G | - | - | 2 | 6 | 15 | 34 | 50 | 90 |
| H | - | 2 | 5 | 11 | 20 | 40 | 65 | 90 |
| N | 6 | 9 | 15 | 22 | 33 | 33 | 90 | 90 |
| P | 10 | 15 | 24 | 32 | 42 | 50 | 90 | 90 |
| Q | 13 | 21 | 31 | 42 | 50 | 58 | 90 | 90 |
| R | 18 | 26 | 36 | 45 | 42 | 70 | 90 | 90 |
| T | 22 | 31 | 41 | 52 | 62 | 82 | 90 | 90 |