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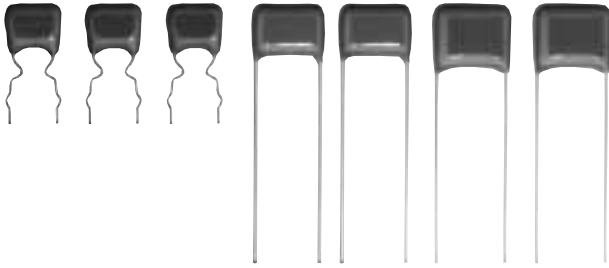
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# Type DSF Polyester Capacitors

## Stacked Metallized Radial Leads



## Subminiature Size

Type DSF film capacitors are made with stacked metallized polyester, resulting in high volumetric efficiency and a very economical solution for general purpose DC applications. Ideally suited for blocking, by-pass, coupling, decoupling, and filtering circuits. Specifically designed for applications where high density insertion of components is required. Ammo box style or reel taping available.

## Specifications

**Voltage Range:** 50-100 Vdc (63 Vdc Optional)

**Capacitance Range:** .010-2.2  $\mu$ F

**Capacitance Tolerance:**  $\pm$  5% (J) standard

**Operating Temperature Range:** -40 to + 85°C

Full rated voltage at 85°C-Derate linearly to 50% - rated voltage at 125°C

**Dielectric Strength:** Rated Vdc x 150 %, 60 sec.

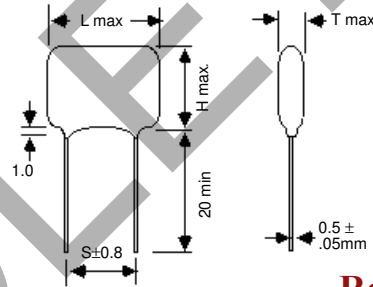
**Dissipation Factor:** 1% max (25°C, 1 kHz)

**Insulation Resistance:** C $\leq$ 0.33 $\mu$ F : 3000M $\Omega$  min.

C $>$ 0.33 $\mu$ F : 1000M $\Omega$ · $\mu$ F min.

**Life Test:** 1000 h @ 85 °C, 125% rated voltage

| Pulse Capability |                                   |      |
|------------------|-----------------------------------|------|
| Rated Volts      | Body Length (mm)                  |      |
|                  | 7.3, 7.5                          | 10.2 |
| 50               | dV/dt volts per microsecond, max. |      |
| 100              | 32 - 37                           | 12   |
|                  | 55                                | 43   |



| Lead Spacing |     |
|--------------|-----|
| L            | S   |
| <10          | 5.0 |
| $\geq$ 10    | 7.5 |

## Ratings and Dimensions

## RoHS Compliant

| Cap. ( $\mu$ F) | Catalog Part Number | T Inches(mm) | H Inches(mm) | L Inches(mm) | S Inches(mm) |
|-----------------|---------------------|--------------|--------------|--------------|--------------|
| <b>50 Vdc</b>   |                     |              |              |              |              |
| 0.010           | DSF050J103          | 0.126 (3.2)  | 0.197 (5.0)  | 0.287 (7.3)  | 0.197 (5.0)  |
| 0.012           | DSF050J123          | 0.126 (3.2)  | 0.197 (5.0)  | 0.287 (7.3)  | 0.197 (5.0)  |
| 0.015           | DSF050J153          | 0.126 (3.2)  | 0.197 (5.0)  | 0.287 (7.3)  | 0.197 (5.0)  |
| 0.018           | DSF050J183          | 0.126 (3.2)  | 0.197 (5.0)  | 0.287 (7.3)  | 0.197 (5.0)  |
| 0.022           | DSF050J223          | 0.126 (3.2)  | 0.197 (5.0)  | 0.287 (7.3)  | 0.197 (5.0)  |
| 0.027           | DSF050J273          | 0.126 (3.2)  | 0.197 (5.0)  | 0.287 (7.3)  | 0.197 (5.0)  |
| 0.033           | DSF050J333          | 0.126 (3.2)  | 0.197 (5.0)  | 0.287 (7.3)  | 0.197 (5.0)  |
| 0.039           | DSF050J393          | 0.126 (3.2)  | 0.197 (5.0)  | 0.287 (7.3)  | 0.197 (5.0)  |
| 0.047           | DSF050J473          | 0.126 (3.2)  | 0.197 (5.0)  | 0.287 (7.3)  | 0.197 (5.0)  |
| 0.056           | DSF050J563          | 0.126 (3.2)  | 0.197 (5.0)  | 0.287 (7.3)  | 0.197 (5.0)  |
| 0.068           | DSF050J683          | 0.126 (3.2)  | 0.197 (5.0)  | 0.287 (7.3)  | 0.197 (5.0)  |
| 0.082           | DSF050J823          | 0.142 (3.6)  | 0.197 (5.0)  | 0.287 (7.3)  | 0.197 (5.0)  |
| 0.100           | DSF050J104          | 0.157 (4.0)  | 0.197 (5.0)  | 0.287 (7.3)  | 0.197 (5.0)  |
| 0.120           | DSF050J124          | 0.157 (4.0)  | 0.197 (5.0)  | 0.287 (7.3)  | 0.197 (5.0)  |
| 0.150           | DSF050J154          | 0.173 (4.4)  | 0.217 (5.5)  | 0.287 (7.3)  | 0.197 (5.0)  |
| 0.180           | DSF050J184          | 0.177 (4.5)  | 0.217 (5.5)  | 0.287 (7.3)  | 0.197 (5.0)  |
| 0.220           | DSF050J224          | 0.189 (4.8)  | 0.217 (5.5)  | 0.287 (7.3)  | 0.197 (5.0)  |
| 0.270           | DSF050J274          | 0.181 (4.6)  | 0.276 (7.0)  | 0.287 (7.3)  | 0.197 (5.0)  |
| 0.330           | DSF050J334          | 0.205 (5.2)  | 0.276 (7.0)  | 0.287 (7.3)  | 0.197 (5.0)  |
| 0.390           | DSF050J394          | 0.224 (5.7)  | 0.287 (7.3)  | 0.287 (7.3)  | 0.197 (5.0)  |
| 0.470           | DSF050J474          | 0.236 (6.0)  | 0.287 (7.3)  | 0.287 (7.3)  | 0.197 (5.0)  |
| 0.560           | DSF050J564          | 0.228 (5.8)  | 0.394 (10.0) | 0.287 (7.3)  | 0.197 (5.0)  |
| 0.680           | DSF050J684          | 0.256 (6.5)  | 0.394 (10.0) | 0.287 (7.3)  | 0.197 (5.0)  |
| 0.820           | DSF050J824          | 0.268 (6.8)  | 0.394 (10.0) | 0.287 (7.3)  | 0.197 (5.0)  |
| 1.000           | DSF050J105          | 0.315 (8.0)  | 0.433 (11.0) | 0.287 (7.3)  | 0.197 (5.0)  |

| Cap. ( $\mu$ F) | Catalog Part Number | T Inches(mm) | H In. (mm)   | L Inches(mm) | S Inches(mm) |
|-----------------|---------------------|--------------|--------------|--------------|--------------|
| <b>100 Vdc</b>  |                     |              |              |              |              |
| 1.200           | DSF050J125          | 0.256 (6.5)  | 0.394 (10.0) | 0.402 (10.2) | 0.295 (7.5)  |
| 1.500           | DSF050J155          | 0.283 (7.2)  | 0.394 (10.0) | 0.402 (10.2) | 0.295 (7.5)  |
| 1.800           | DSF050J185          | 0.283 (7.2)  | 0.472 (12.0) | 0.402 (10.2) | 0.295 (7.5)  |
| 2.200           | DSF050J225          | 0.311 (7.9)  | 0.472 (12.0) | 0.402 (10.2) | 0.295 (7.5)  |
| 0.010           | DSF100J103          | 0.126 (3.2)  | 0.276 (7.0)  | 0.295 (7.5)  | 0.197 (5.0)  |
| 0.012           | DSF100J123          | 0.126 (3.2)  | 0.276 (7.0)  | 0.295 (7.5)  | 0.197 (5.0)  |
| 0.015           | DSF100J153          | 0.126 (3.2)  | 0.276 (7.0)  | 0.295 (7.5)  | 0.197 (5.0)  |
| 0.018           | DSF100J183          | 0.126 (3.2)  | 0.276 (7.0)  | 0.295 (7.5)  | 0.197 (5.0)  |
| 0.022           | DSF100J223          | 0.126 (3.2)  | 0.276 (7.0)  | 0.295 (7.5)  | 0.197 (5.0)  |
| 0.027           | DSF100J273          | 0.126 (3.2)  | 0.276 (7.0)  | 0.295 (7.5)  | 0.197 (5.0)  |
| 0.033           | DSF100J333          | 0.126 (3.2)  | 0.276 (7.0)  | 0.295 (7.5)  | 0.197 (5.0)  |
| 0.039           | DSF100J393          | 0.126 (3.2)  | 0.276 (7.0)  | 0.295 (7.5)  | 0.197 (5.0)  |
| 0.047           | DSF100J473          | 0.126 (3.2)  | 0.276 (7.0)  | 0.295 (7.5)  | 0.197 (5.0)  |
| 0.056           | DSF100J563          | 0.126 (3.2)  | 0.276 (7.0)  | 0.295 (7.5)  | 0.197 (5.0)  |
| 0.068           | DSF100J683          | 0.157 (4.0)  | 0.276 (7.0)  | 0.295 (7.5)  | 0.197 (5.0)  |
| 0.082           | DSF100J823          | 0.161 (4.1)  | 0.276 (7.0)  | 0.295 (7.5)  | 0.197 (5.0)  |
| 0.100           | DSF100J104          | 0.177 (4.5)  | 0.276 (7.0)  | 0.295 (7.5)  | 0.197 (5.0)  |
| 0.120           | DSF100J124          | 0.130 (3.3)  | 0.354 (9.0)  | 0.402 (10.2) | 0.295 (7.5)  |
| 0.150           | DSF100J154          | 0.130 (3.3)  | 0.354 (9.0)  | 0.402 (10.2) | 0.295 (7.5)  |
| 0.180           | DSF100J184          | 0.142 (3.6)  | 0.354 (9.0)  | 0.402 (10.2) | 0.295 (7.5)  |
| 0.220           | DSF100J224          | 0.157 (4.0)  | 0.354 (9.0)  | 0.402 (10.2) | 0.295 (7.5)  |
| 0.270           | DSF100J274          | 0.165 (4.2)  | 0.354 (9.0)  | 0.402 (10.2) | 0.295 (7.5)  |
| 0.330           | DSF100J334          | 0.189 (4.8)  | 0.394 (10.0) | 0.402 (10.2) | 0.295 (7.5)  |
| 0.390           | DSF100J394          | 0.217 (5.5)  | 0.394 (10.0) | 0.402 (10.2) | 0.295 (7.5)  |
| 0.470           | DSF100J474          | 0.268 (6.8)  | 0.413 (10.5) | 0.402 (10.2) | 0.295 (7.5)  |



# Type DSF Polyester Capacitors

**DSF**  
Dipped  
Stacked  
Film  
Type

**050**  
Voltage  
Code  
050 = 50 Vdc  
100 = 100 Vdc

**J**  
Capacitance  
Tolerance  
J = ±5%

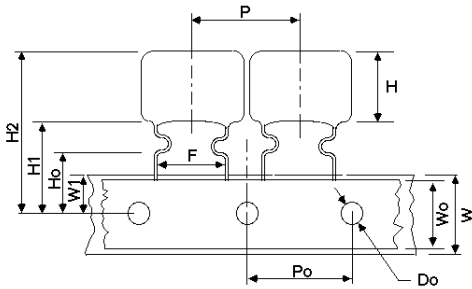
**223**  
Nominal  
Capacitance  
(First two digits are significant  
figures. Last digit is multiplier  
to give cap in pF)  
e.g. 223 = 22 X 10<sup>3</sup> pF = .022 μF  
104 = 10 X 10<sup>4</sup> pF = .100 μF  
155 = 15 X 10<sup>5</sup> pF = 1.50 μF

**C**  
Bulk and Ammo  
Packaging Options  
Blank = Straight lead, Bulk  
C = Crimped, Bulk  
CA = Crimped Lead, Ammo Pack  
TA = Straight Lead, Ammo Pack

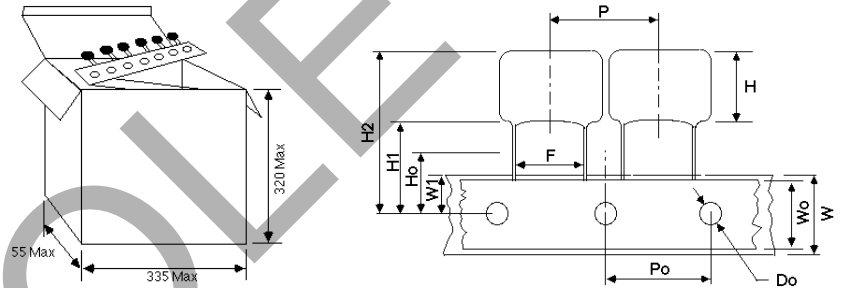
*Tape & Reel packaging available.  
Contact us for detailed specs.*

## Ammo Pack Options

### Crimped Lead Ammo Pack Option (CA)



### Straight Lead Ammo Pack Option (TA)



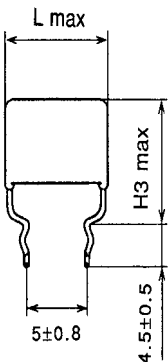
| PACKAGE QUANTITY FOR AMMO PACK<br>CRIMPED LEAD OPTION (CA) & (CR) |                   |          |
|---|-------------------|----------|
| WVDC  | Capacitance Range | Quantity |
| 50  | 0.01 - 0.12       | 2000     |
|   | 0.15 - 2.2        | 1000     |
| 100   | 0.01 - 0.068      | 2000     |
|   | 0.082 - 0.1       | 1000     |
|   | 0.12 - 0.22       | 2000     |
|   | 0.27 - 0.47       | 1000     |

| PACKAGE QUANTITY FOR AMMO PACK<br>STRAIGHT LEAD OPTION (TA) & (TR) |                   |          |
|--|-------------------|----------|
| WVDC   | Capacitance Range | Quantity |
| 50   | 0.01 - 0.12       | 2000     |
|  | 0.15 to 1.0       | 1000     |
| 100  | 0.01 - 0.068      | 2000     |
|  | 0.082 - 0.1       | 1000     |

### Bulk Cut & Crimp Styles

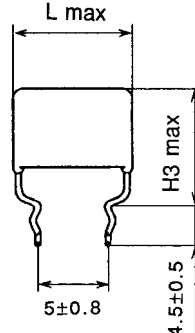
*Crimp style depends on capacitor length.*

$L \leq 10.0$  mm



| WVDC | H3 max. (mm) |
|------|--------------|
| 50   | H+4.5        |
| 100  | H+5.0        |

$L > 10.0$  mm



### AMMO PACK TAPING SPECIFICATIONS

|                                    | Dimensions<br>for Crimped<br>Option (CA) | Dimensions<br>for Straight<br>Lead Option (TA) | Tol.<br>(mm) |
|------------------------------------|--|--|--------------|
| Lead Spacing (F)                   | 5.0                                      | 5.0  | +8/-2        |
| Capacitor Pitch (P)                | 12.7                                     | 12.7   | ±1           |
| Feed Hole Pitch (Po)               | 12.7                                     | 12.7   | ±2           |
| Carrier Width (W)                  | 18.0                                     | 18.0   | ±5           |
| Feed Hole Position<br>(W1)         | 9.0                                      | 9.0  | ±5           |
| Height of Seating<br>Plane (H1)    | 20.0                                     | 20.0   | ±5           |
| Lead Wire Clinch<br>Height (H0)    | 16.0                                     | ---  | ±5           |
| Feed Hole<br>Diameter (Do)         | 4.0                                      | 4.0  | ±2           |
| Case Top to Feed<br>Hole (H2) Max. | 20.5 + Hmax                              | 20.5 + Hmax                                    | Max.         |

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OBSOLETE