

# Type SF Lighting Capacitors, 90 °C Rated, Oil Filled

## AC Rated, Oil Filled/Impregnated, Metallized Polypropylene Capacitors



For better performance in HID Lighting and HV Ballasts, Type SF oval and round oil filled metallized polypropylene lighting capacitors are built for operating in the high temperature environments for high intensity discharge (HID) lighting and other high voltage ballast applications. Each HID catalog capacitor includes an external resistor that discharges the capacitor to less than 50V in one minute, and the oil filled process assures better reliability than dry capacitors.

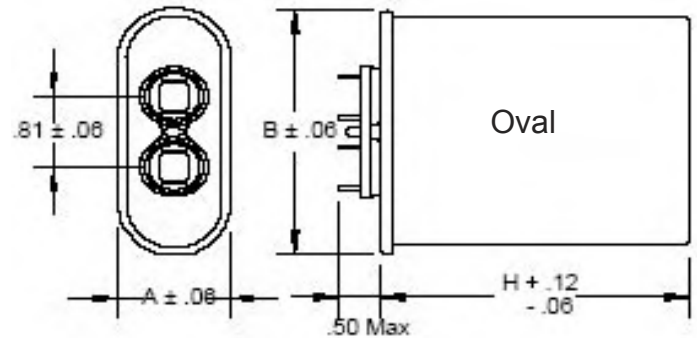
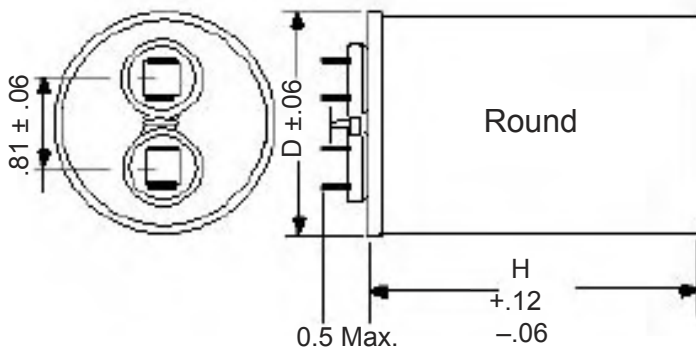
### Highlights

- Protected: UL recognized under E71645
- Meets EIA Standard EIA-456-A
- Casing: tin-plated steel standard, aluminum optional
- Paint: (U.L. recognized) optional

### Specifications

Capacitance range: 5  $\mu$ F to 55  $\mu$ F  
 Voltage range: 280 Vac to 525 Vac, other voltages available  
 Capacitance Tolerance:  $\pm 3\%$   
 Temperature Range:  $-40\text{ }^{\circ}\text{C}$ ,  $+90\text{ }^{\circ}\text{C}$   
 Operating Frequency: Operating frequency: 50 - 60 Hz

### Outline Drawings



Case Code	D (Inches)	H
P	1.87	See Ratings Table
S	2.12	See Ratings Table
T	2.62	See Ratings Table

Oval Case Code	Dimensions (Inches)		
	A	B	H
A	1.31	2.16	See Ratings Table
B	1.56	2.69	See Ratings Table
C	1.91	2.91	See Ratings Table
D	1.97	3.66	See Ratings Table

### Part Numbering System

<b>SF</b>	<b>C</b>	<b>40</b>	<b>S</b>	<b>15</b>	<b>L</b>	<b>291</b>	<b>K</b>
<b>Type</b>	<b>Case Size</b>	<b>Voltage</b>	<b>Case Matl.</b>	<b>Cap</b>	<b>Tolerance</b>	<b>Can Height</b>	<b>Terminals</b>
<b>SF</b>	<b>A</b> = 1 1/4" Oval <b>B</b> = 1 1/2" Oval <b>C</b> = 1 3/4" Oval <b>D</b> = 2.0" Oval <b>P</b> = 1 3/4" Round <b>S</b> = 2.0" Round <b>T</b> = 2 1/2" Round	<b>28</b> = 280 Vac <b>30</b> = 300 Vac <b>33</b> = 330 Vac <b>40</b> = 400 Vac <b>48</b> = 480 Vac <b>52</b> = 525 Vac	<b>S</b> = Steel	<b>7</b> = 7.0 $\mu$ F <b>32</b> = 32.0 $\mu$ F <b>19.5</b> = 19.5 $\mu$ F	<b>L</b> = $\pm 3\%$	<b>291</b> = 2.91 <b>391</b> = 3.91	<b>K</b> = 2-tine with fork and external resistor, 90 °C

# Type SF Lighting Capacitors, 90 °C Rated, Oil Filled

## Ratings - Round Case Style

Cap. ( $\mu$ F)	Catalog Part Number	Case Code	H (Inches)
<b>280 Vac Round 90 °C Case Temperature</b>			
5.0	SFP28S5L238K	P	2.38
7.0	SFP28S7L238K	P	2.38
10.0	SFP28S10L238K	P	2.38
12.0	SFP28S12L238K	P	2.38
14.0	SFP28S14L238K	P	2.38
17.5	SFP28S17.5L238K	P	2.38
20.0	SFP28S20L288K	P	2.88
35.0	SFP28S35L288K	P	2.88
48.0	SFP28S48L375K	P	3.75
55.0	SFS28S55L375K	S	3.75
<b>300 Vac Round 90 °C Case Temperature</b>			
10.0	SFP30S10L238K	P	2.38
12.0	SFP30S12L238K	P	2.38
14.0	SFP30S14L238K	P	2.38
16.0	SFP30S16L238K	P	2.38
20.0	SFP30S20L238K	P	2.38
<b>330 Vac Round 90 °C Case Temperature</b>			
22.5	SFP33S22.5L288K	P	2.88
24.0	SFP33S24L288K	P	2.88
26.0	SFP33S26L288K	P	2.88
28.0	SFP33S28L288K	P	2.88
30.0	SFP33S30L288K	P	2.88
<b>400 Vac Round 90 °C Case Temperature</b>			
10.0	SFP40S10L288K	P	2.88
15.0	SFP40S15L288K	P	2.88
19.5	SFP40S19.5L288K	P	2.88
20.5	SFP40S20.5L288K	P	2.88
24.0	SFP40S24L375K	P	3.75
<b>480 Vac Round 90 °C Case Temperature</b>			
12.0	SFP48S12L288K	P	2.88
15.0	SFP48S15L288K	P	2.88
18.0	SFS48S18L288K	S	2.88
19.0	SFS48S19L288K	S	2.88
21.0	SFS48S21L288K	S	2.88
24.0	SFP48S24L375K	P	3.75
<b>525 Vac Round 90 °C Case Temperature</b>			
16.0	SFS52S16L288K	S	2.88
26.0	SFT52S26L391K	T	3.91
32.0	SFT52S32L391K	T	3.91

## Ratings - Oval Case Style

Cap. ( $\mu$ F)	Catalog Part Number	Case Code	H (Inches)
<b>280 Vac Oval 90 °C Case Temperature</b>			
5.0	SFA28S5L156K	A	1.56
7.0	SFA28S7L156K	A	1.56
10.0	SFA28S10L288K	A	2.88
12.0	SFA28S12L288K	A	2.88
14.0	SFA28S14L288K	A	2.88
17.5	SFC28S17.5L291K	C	2.91
20.0	SFC28S20L291K	C	2.91
35.0	SFC28S35L291K	C	2.91
48.0	SFC28S48L391K	C	3.91
55.0	SFC28S55L391K	C	3.91
<b>300 Vac Oval 90 °C Case Temperature</b>			
10.0	SFA30S10L288K	A	2.88
12.0	SFA30S12L288K	A	2.88
14.0	SFA30S14L288K	A	2.88
16.0	SFC30S16L291K	C	2.91
20.0	SFC30S20L291K	C	2.91
<b>330 Vac Oval 90 °C Case Temperature</b>			
22.5	SFC33S22.5L291K	C	2.91
24.0	SFC33S24L291K	C	2.91
26.0	SFC33S26L291K	C	2.91
28.0	SFC33S28L291K	C	2.91
30.0	SFC33S30L291K	C	2.91
<b>400 Vac Oval 90 °C Case Temperature</b>			
10.0	SFA40S10L288K	A	2.88
15.0	SFC40S15L291K	C	2.91
19.5	SFC40S19.5L291K	C	2.91
20.5	SFC40S20.5L291K	C	2.91
24.0	SFC40S24L391K	C	3.91
<b>480 Vac Oval 90 °C Case Temperature</b>			
12.0	SFC48S12L291K	C	2.91
15.0	SFC48S15L291K	C	2.91
18.0	SFC48S18L291K	C	2.91
19.0	SFC48S19L291K	C	2.91
21.0	SFC48S21L391K	C	3.91
24.0	SFC48S24L391K	C	3.91
<b>525 Vac Oval 90 °C Case Temperature</b>			
16.0	SFC52S16L391K	C	3.91
26.0	SFD52S26L391K	D	3.91
32.0	SFD52S32L391K	D	3.91

The capacitors listed satisfy the majority of applications. Please contact the factory for other ratings as custom designs.

**See Capacitor Hardware for Clamps and Brackets**

# Type SF Lighting Capacitors, 100 °C Rated, Oil Filled

## AC Rated, Oil Filled/Impregnated, Metallized Polypropylene Capacitors



For better performance in HID Lighting and HV Ballasts, Type SF oval and round oil filled metallized polypropylene lighting capacitors are built for operating in the high temperature environments for high intensity discharge (HID) lighting and other high voltage ballast applications. Each HID catalog capacitor includes an external resistor that discharges the capacitor to less than 50V in one minute, and the oil filled process assures better reliability than dry capacitors.

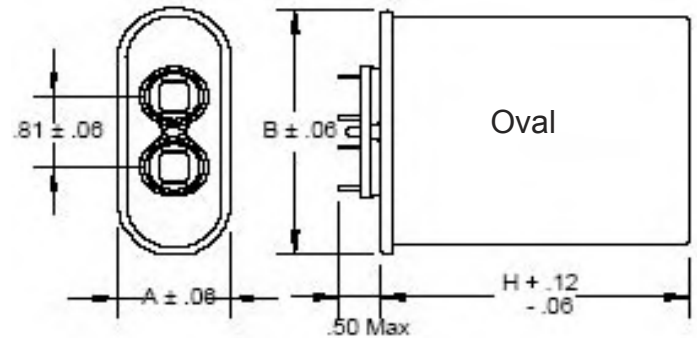
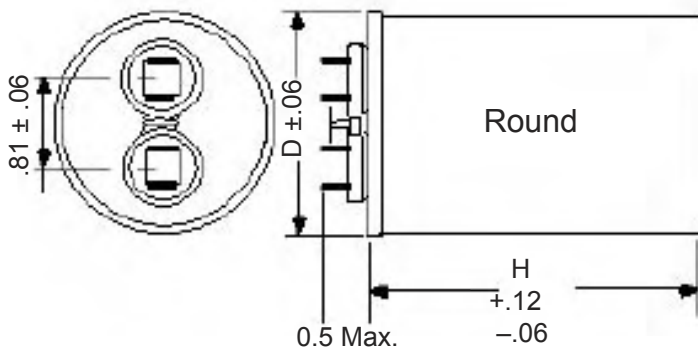
### Highlights

- Protected: UL recognized under E71645
- Meets EIA Standard EIA-456-A
- Casing: tin-plated steel standard, aluminum optional
- Paint: (U.L. recognized) optional

### Specifications

Capacitance range: 5  $\mu$ F to 55  $\mu$ F  
 Voltage range: 280 Vac to 525 Vac, other voltages available  
 Capacitance Tolerance:  $\pm 3\%$   
 Temperature Range:  $-40\text{ }^{\circ}\text{C}$ ,  $+100\text{ }^{\circ}\text{C}$   
 Operating Frequency: Operating frequency: 50 - 60 Hz

### Outline Drawings



Case Code	D (Inches)	H
P	1.87	See Ratings Table
S	2.12	See Ratings Table
T	2.62	See Ratings Table

Oval Case Code	Dimensions (Inches)		
	A	B	H
A	1.31	2.16	See Ratings Table
B	1.56	2.69	See Ratings Table
C	1.91	2.91	See Ratings Table
D	1.97	3.66	See Ratings Table

### Part Numbering System

SF	C	40	S	15	L	291	L
Type	Case Size	Voltage	Case Matl.	Cap	Tolerance	Can Height	Terminals
SF	A = 1 1/4" Oval B = 1 1/2" Oval C = 1 3/4" Oval D = 2.0" Oval P = 1 3/4" Round S = 2.0" Round T = 2 1/2" Round	28 = 280 Vac 30 = 300 Vac 33 = 330 Vac 40 = 400 Vac 48 = 480 Vac 52 = 525 Vac	S = Steel	7 = 7.0 $\mu$ F 32 = 32.0 $\mu$ F 19.5 = 19.5 $\mu$ F	L = $\pm 3\%$	291 = 2.91 391 = 3.91	L = 2-tine with fork and external resistor, 100 °C

# Type SF Lighting Capacitors, 100 °C Rated, Oil Filled

## Ratings - Round Case Style

Cap. ( $\mu$ F)	Catalog Part Number	Case Code	H (Inches)
<b>280 Vac Round 100 °C Case Temperature</b>			
5.0	SFP28S5L238L	P	2.38
7.0	SFP28S7L238L	P	2.38
10.0	SFP28S10L238L	P	2.38
12.0	SFP28S12L238L	P	2.38
14.0	SFP28S14L238L	P	2.38
17.5	SFP28S17.5L238L	P	2.38
20.0	SFP28S20L288L	P	2.88
35.0	SFP28S35L375L	P	3.75
48.0	SFS28S48L375L	S	3.75
55.0	SFS28S55L375L	S	3.75
<b>300 Vac Round 100 °C Case Temperature</b>			
10.0	SFP30S10L238L	P	2.38
12.0	SFP30S12L238L	P	2.38
14.0	SFP30S14L238L	P	2.38
16.0	SFP30S16L238L	P	2.38
20.0	SFP30S20L238L	P	2.38
<b>330 Vac Round 100 °C Case Temperature</b>			
22.5	SFP33S22.5L288L	P	2.88
24.0	SFS33S24L288L	S	2.88
26.0	SFS33S26L288L	S	2.88
28.0	SFS33S28L288L	S	2.88
30.0	SFS33S30L288L	S	2.88
<b>400 Vac Round 100 °C Case Temperature</b>			
10.0	SFP40S10L288L	P	2.88
15.0	SFP40S15L288L	P	2.88
19.5	SFS40S19.5L288L	S	2.88
20.5	SFS40S20.5L288L	S	2.88
24.0	SFP40S24L375L	P	3.75
<b>480 Vac Round 100 °C Case Temperature</b>			
12.0	SFS48S12L288L	S	2.88
15.0	SFS48S15L288L	S	2.88
18.0	SFS48S18L375L	S	3.75
19.0	SFS48S19L375L	S	3.75
21.0	SFS48S21L375L	S	3.75
24.0	SFS48S24L375L	S	3.75
<b>525 Vac Round 100 °C Case Temperature</b>			
16.0	SFS52S16L288L	S	2.88
26.0	SFT52S26L391L	T	3.91
32.0	SFT52S32L391L	T	3.91

## Ratings - Oval Case Style

Cap. ( $\mu$ F)	Catalog Part Number	Case Code	H (Inches)
<b>280 Vac Oval 100 °C Case Temperature</b>			
5.0	SFA28S5L156L	A	1.56
7.0	SFA28S7L238L	A	2.38
10.0	SFA28S10L288L	A	2.88
12.0	SFA28S12L288L	A	2.88
14.0	SFA28S14L388L	A	2.88
17.5	SFC28S17.5L291L	C	2.91
20.0	SFC28S20L291L	C	2.91
35.0	SFC28S35L391L	C	3.91
48.0	SFC28S48L391L	C	3.91
55.0	SFC28S55L491L	C	4.91
<b>300 Vac Oval 100 °C Case Temperature</b>			
10.0	SFA30S10L288L	A	2.88
12.0	SFA30S12L288L	A	2.88
14.0	SFA30S14L288L	A	2.88
16.0	SFC30S16L291L	C	2.91
20.0	SFC30S20L291L	C	2.91
<b>330 Vac Oval 100 °C Case Temperature</b>			
22.5	SFC33S22.5L291L	C	2.91
24.0	SFC33S24L291L	C	2.91
26.0	SFC33S26L291L	C	2.91
28.0	SFC33S28L391L	C	3.91
30.0	SFC33S30L391L	C	3.91
<b>400 Vac Oval 100 °C Case Temperature</b>			
10.0	SFC40S10L291L	C	2.91
15.0	SFC40S15L291L	C	2.91
19.5	SFC40S19.5L391L	C	3.91
20.5	SFC40S20.5L391L	C	3.91
24.0	SFC40S24L391L	C	3.91
<b>480 Vac Oval 100 °C Case Temperature</b>			
12.0	SFC48S12L291L	C	2.91
15.0	SFC48S15L291L	C	2.91
18.0	SFC48S18L391L	C	3.91
19.0	SFC48S19L391L	C	3.91
21.0	SFC48S21L391L	C	3.91
24.0	SFD48S24L391L	D	3.91
<b>525 Vac Oval 100 °C Case Temperature</b>			
16.0	SFC52S16L391L	C	3.91
26.0	SFD52S26L391L	D	3.91
32.0	SFD52S32L391L	D	3.91

The capacitors listed satisfy the majority of applications. Please contact the factory for other ratings as custom designs.  
**See Capacitor Hardware for clamps and Brackets**