

# 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.



Complies with the EU Directive 2002/95/EC requirement restricting the use of Lead (Pb), Mercury (Hg), Cadmium (Cd), Hexavalent chromium (Cr(VI)), PolyBrominated Biphenyls (PBB) and PolyBrominated Diphenyl Ethers (PBDE).

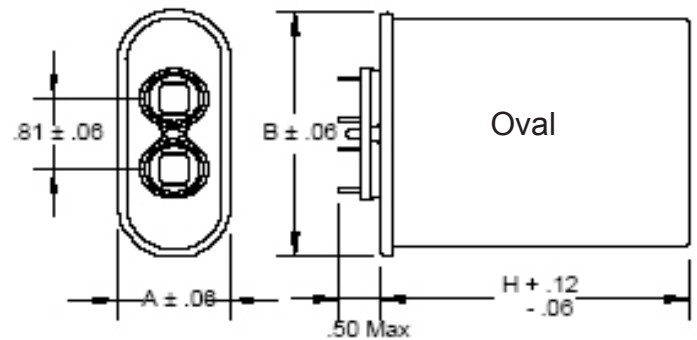
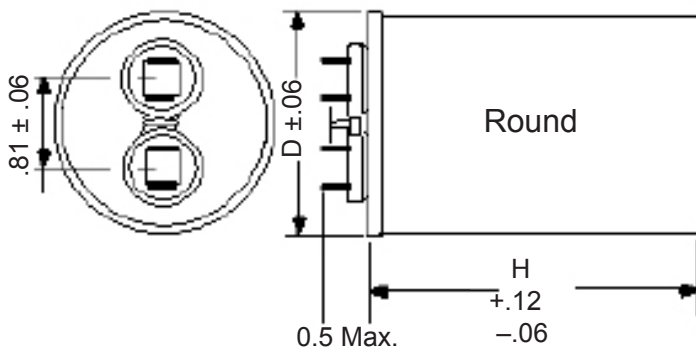
### Highlights

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

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## 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-F	P	2.38
7.0	SFP28S7L238K-F	P	2.38
10.0	SFP28S10L238K-F	P	2.38
12.0	SFP28S12L238K-F	P	2.38
14.0	SFP28S14L238K-F	P	2.38
17.5	SFP28S17.5L238K-F	P	2.38
20.0	SFP28S20L288K-F	P	2.88
35.0	SFP28S35L288K-F	P	2.88
48.0	SFP28S48L375K-F	P	3.75
55.0	SFS28S55L375K-F	S	3.75
<b>300 Vac Round 90 °C Case Temperature</b>			
10.0	SFP30S10L238K-F	P	2.38
12.0	SFP30S12L238K-F	P	2.38
14.0	SFP30S14L238K-F	P	2.38
16.0	SFP30S16L238K-F	P	2.38
20.0	SFP30S20L238K-F	P	2.38
<b>330 Vac Round 90 °C Case Temperature</b>			
22.5	SFP33S22.5L288K-F	P	2.88
24.0	SFP33S24L288K-F	P	2.88
26.0	SFP33S26L288K-F	P	2.88
28.0	SFP33S28L288K-F	P	2.88
30.0	SFP33S30L288K-F	P	2.88
<b>400 Vac Round 90 °C Case Temperature</b>			
10.0	SFP40S10L288K-F	P	2.88
15.0	SFP40S15L288K-F	P	2.88
19.5	SFP40S19.5L288K-F	P	2.88
20.5	SFP40S20.5L288K-F	P	2.88
24.0	SFP40S24L375K-F	P	3.75
<b>480 Vac Round 90 °C Case Temperature</b>			
12.0	SFP48S12L288K-F	P	2.88
15.0	SFP48S15L288K-F	P	2.88
18.0	SFS48S18L288K-F	S	2.88
19.0	SFS48S19L288K-F	S	2.88
21.0	SFS48S21L288K-F	S	2.88
24.0	SFP48S24L375K-F	P	3.75
<b>525 Vac Round 90 °C Case Temperature</b>			
16.0	SFS52S16L288K-F	S	2.88
26.0	SFT52S26L391K-F	T	3.91
32.0	SFT52S32L391K-F	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-F	A	1.56
7.0	SFA28S7L156K-F	A	1.56
10.0	SFA28S10L288K-F	A	2.88
12.0	SFA28S12L288K-F	A	2.88
14.0	SFA28S14L288K-F	A	2.88
17.5	SFC28S17.5L291K-F	C	2.91
20.0	SFC28S20L291K-F	C	2.91
35.0	SFC28S35L291K-F	C	2.91
48.0	SFC28S48L391K-F	C	3.91
55.0	SFC28S55L391K-F	C	3.91
<b>300 Vac Oval 90 °C Case Temperature</b>			
10.0	SFA30S10L288K-F	A	2.88
12.0	SFA30S12L288K-F	A	2.88
14.0	SFA30S14L288K-F	A	2.88
16.0	SFC30S16L291K-F	C	2.91
20.0	SFC30S20L291K-F	C	2.91
<b>330 Vac Oval 90 °C Case Temperature</b>			
22.5	SFC33S22.5L291K-F	C	2.91
24.0	SFC33S24L291K-F	C	2.91
26.0	SFC33S26L291K-F	C	2.91
28.0	SFC33S28L291K-F	C	2.91
30.0	SFC33S30L291K-F	C	2.91
<b>400 Vac Oval 90 °C Case Temperature</b>			
10.0	SFA40S10L288K-F	A	2.88
15.0	SFC40S15L291K-F	C	2.91
19.5	SFC40S19.5L291K-F	C	2.91
20.5	SFC40S20.5L291K-F	C	2.91
24.0	SFC40S24L391K-F	C	3.91
<b>480 Vac Oval 90 °C Case Temperature</b>			
12.0	SFC48S12L291K-F	C	2.91
15.0	SFC48S15L291K-F	C	2.91
18.0	SFC48S18L291K-F	C	2.91
19.0	SFC48S19L291K-F	C	2.91
21.0	SFC48S21L391K-F	C	3.91
24.0	SFC48S24L391K-F	C	3.91
<b>525 Vac Oval 90 °C Case Temperature</b>			
16.0	SFC52S16L391K-F	C	3.91
26.0	SFD52S26L391K-F	D	3.91
32.0	SFD52S32L391K-F	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**

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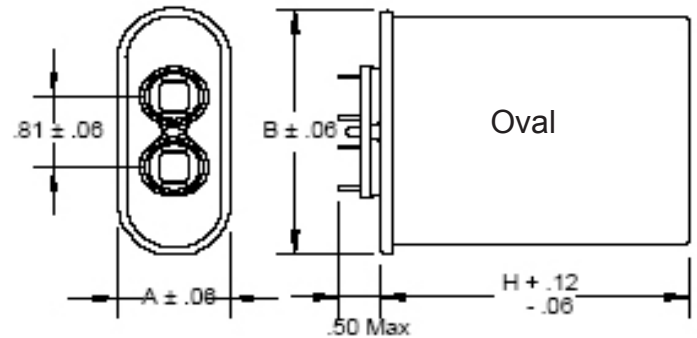
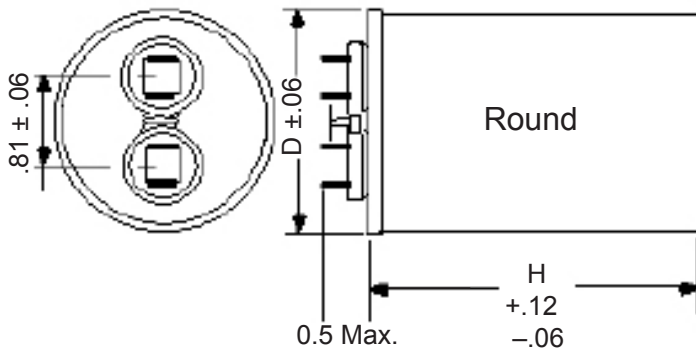
### Specifications



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 Capacitance Tolerance:  $\pm 3\%$   
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 Operating Frequency: Operating frequency: 50 - 60 Hz

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12.0	SFP28S12L238L-F	P	2.38
14.0	SFP28S14L238L-F	P	2.38
17.5	SFP28S17.5L238L-F	P	2.38
20.0	SFP28S20L288L-F	P	2.88
35.0	SFP28S35L375L-F	P	3.75
48.0	SFS28S48L375L-F	S	3.75
55.0	SFS28S55L375L-F	S	3.75
<b>300 Vac Round 100 °C Case Temperature</b>			
10.0	SFP30S10L238L-F	P	2.38
12.0	SFP30S12L238L-F	P	2.38
14.0	SFP30S14L238L-F	P	2.38
16.0	SFP30S16L238L-F	P	2.38
20.0	SFP30S20L238L-F	P	2.38
<b>330 Vac Round 100 °C Case Temperature</b>			
22.5	SFP33S22.5L288L-F	P	2.88
24.0	SFS33S24L288L-F	S	2.88
26.0	SFS33S26L288L-F	S	2.88
28.0	SFS33S28L288L-F	S	2.88
30.0	SFS33S30L288L-F	S	2.88
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10.0	SFP40S10L288L-F	P	2.88
15.0	SFP40S15L288L-F	P	2.88
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15.0	SFS48S15L288L-F	S	2.88
18.0	SFS48S18L375L-F	S	3.75
19.0	SFS48S19L375L-F	S	3.75
21.0	SFS48S21L375L-F	S	3.75
24.0	SFS48S24L375L-F	S	3.75
<b>525 Vac Round 100 °C Case Temperature</b>			
16.0	SFS52S16L288L-F	S	2.88
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17.5	SFC28S17.5L291L-F	C	2.91
20.0	SFC28S20L291L-F	C	2.91
35.0	SFC28S35L391L-F	C	3.91
48.0	SFC28S48L391L-F	C	3.91
55.0	SFC28S55L491L-F	C	4.91
<b>300 Vac Oval 100 °C Case Temperature</b>			
10.0	SFA30S10L288L-F	A	2.88
12.0	SFA30S12L288L-F	A	2.88
14.0	SFA30S14L288L-F	A	2.88
16.0	SFC30S16L291L-F	C	2.91
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10.0	SFC40S10L291L-F	C	2.91
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