

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).

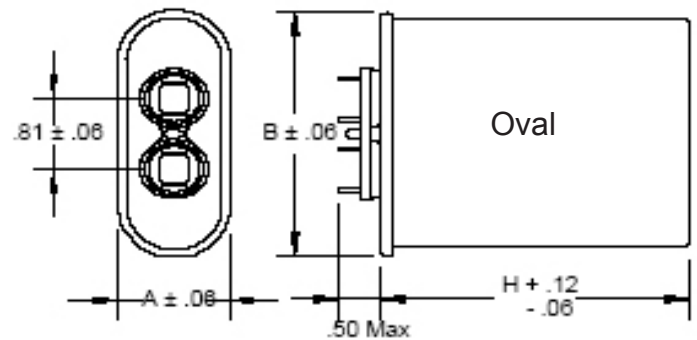
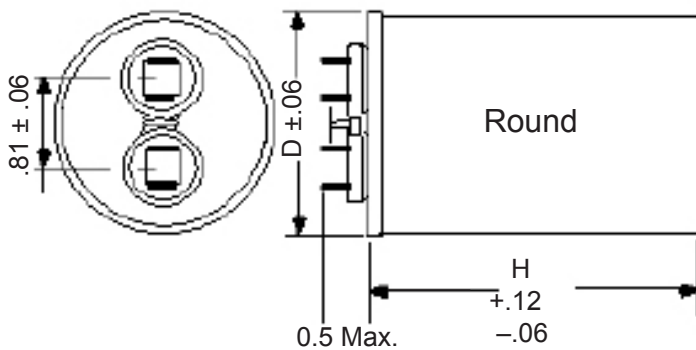
Highlights

- 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 μ F to 55 μ 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 μ F | L = $\pm 3\%$ | 291 = 2.91 | K = 2-tine with | Compliant |
| | B = 1 1/2" Oval | 30 = 300 Vac | | 32 = 32.0 μ F | | 391 = 3.91 | fork and external | |
| | C = 1 3/4" Oval | 33 = 330 Vac | | 19.5 = 19.5 μ 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 | | | | | | | |

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

Ratings - Round Case Style

Ratings - Oval Case Style

| Cap. (μ F) | Catalog Part Number | Case Code | H (Inches) |
|---|------------------------|--------------|---------------|
| 280 Vac Round 90 °C Case Temperature | | | |
| 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 |
| 300 Vac Round 90 °C Case Temperature | | | |
| 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 |
| 330 Vac Round 90 °C Case Temperature | | | |
| 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 |
| 400 Vac Round 90 °C Case Temperature | | | |
| 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 |
| 480 Vac Round 90 °C Case Temperature | | | |
| 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 |
| 525 Vac Round 90 °C Case Temperature | | | |
| 16.0 | SFS52S16L288K-F | S | 2.88 |
| 26.0 | SFT52S26L391K-F | T | 3.91 |
| 32.0 | SFT52S32L391K-F | T | 3.91 |

| Cap. (μ F) | Catalog Part Number | Case Code | H (Inches) |
|--|------------------------|--------------|---------------|
| 280 Vac Oval 90 °C Case Temperature | | | |
| 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 |
| 300 Vac Oval 90 °C Case Temperature | | | |
| 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 |
| 330 Vac Oval 90 °C Case Temperature | | | |
| 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 |
| 400 Vac Oval 90 °C Case Temperature | | | |
| 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 |
| 480 Vac Oval 90 °C Case Temperature | | | |
| 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 |
| 525 Vac Oval 90 °C Case Temperature | | | |
| 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

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

AC Rated, Oil Filled/Impregnated, Metallized Polypropylene Capacitors



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Highlights

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

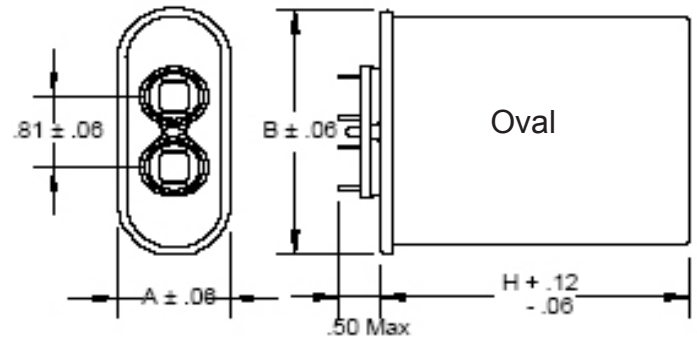
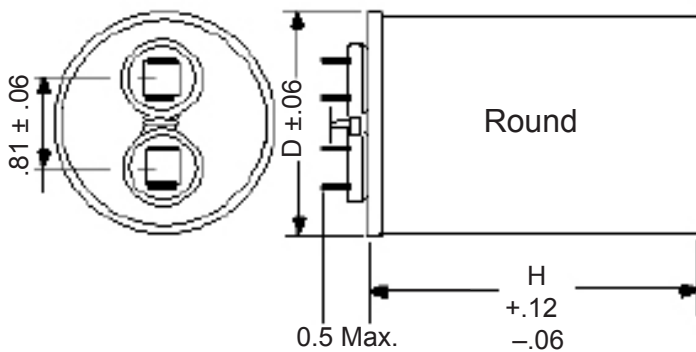
Specifications



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Capacitance Range: 5 μ F to 55 μ F
 Voltage Range: 280 Vac to 525 Vac, other voltages available
 Capacitance Tolerance: \pm 3%
 Temperature Range: -40 °C, +100 °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 |
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| 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 | -F |
|------|------------------|--------------|------------|---------------------|--------------|------------|-------------------|-----------|
| Type | Case Size | Voltage | Case Matl. | Cap | Tolerance | Can Height | Terminals | RoHS |
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| | B = 1 1/2" Oval | 30 = 300 Vac | | 32 = 32.0 μ F | | 391 = 3.91 | fork and external | |
| | C = 1 3/4" Oval | 33 = 330 Vac | | 19.5 = 19.5 μ F | | | resistor, 100 °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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| 7.0 | SFP28S7L238L-F | P | 2.38 |
| 10.0 | SFP28S10L238L-F | P | 2.38 |
| 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 |
| 300 Vac Round 100 °C Case Temperature | | | |
| 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 |
| 330 Vac Round 100 °C Case Temperature | | | |
| 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 |
| 400 Vac Round 100 °C Case Temperature | | | |
| 10.0 | SFP40S10L288L-F | P | 2.88 |
| 15.0 | SFP40S15L288L-F | P | 2.88 |
| 19.5 | SFS40S19.5L288L-F | S | 2.88 |
| 20.5 | SFS40S20.5L288L-F | S | 2.88 |
| 24.0 | SFP40S24L375L-F | P | 3.75 |
| 480 Vac Round 100 °C Case Temperature | | | |
| 12.0 | SFS48S12L288L-F | S | 2.88 |
| 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 |
| 525 Vac Round 100 °C Case Temperature | | | |
| 16.0 | SFS52S16L288L-F | S | 2.88 |
| 26.0 | SFT52S26L391L-F | T | 3.91 |
| 32.0 | SFT52S32L391L-F | T | 3.91 |

Ratings - Oval Case Style

| Cap. (µF) | Catalog Part Number | Case Code | H (Inches) |
|---|------------------------|--------------|---------------|
| 280 Vac Oval 100 °C Case Temperature | | | |
| 5.0 | SFA28S5L156L-F | A | 1.56 |
| 7.0 | SFA28S7L238L-F | A | 2.38 |
| 10.0 | SFA28S10L288L-F | A | 2.88 |
| 12.0 | SFA28S12L288L-F | A | 2.88 |
| 14.0 | SFA28S14L388L-F | A | 2.88 |
| 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 |
| 300 Vac Oval 100 °C Case Temperature | | | |
| 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 |
| 20.0 | SFC30S20L291L-F | C | 2.91 |
| 330 Vac Oval 100 °C Case Temperature | | | |
| 22.5 | SFC33S22.5L291L-F | C | 2.91 |
| 24.0 | SFC33S24L291L-F | C | 2.91 |
| 26.0 | SFC33S26L291L-F | C | 2.91 |
| 28.0 | SFC33S28L391L-F | C | 3.91 |
| 30.0 | SFC33S30L391L-F | C | 3.91 |
| 400 Vac Oval 100 °C Case Temperature | | | |
| 10.0 | SFC40S10L291L-F | C | 2.91 |
| 15.0 | SFC40S15L291L-F | C | 2.91 |
| 19.5 | SFC40S19.5L391L-F | C | 3.91 |
| 20.5 | SFC40S20.5L391L-F | C | 3.91 |
| 24.0 | SFC40S24L391L-F | C | 3.91 |
| 480 Vac Oval 100 °C Case Temperature | | | |
| 12.0 | SFC48S12L291L-F | C | 2.91 |
| 15.0 | SFC48S15L291L-F | C | 2.91 |
| 18.0 | SFC48S18L391L-F | C | 3.91 |
| 19.0 | SFC48S19L391L-F | C | 3.91 |
| 21.0 | SFC48S21L391L-F | C | 3.91 |
| 24.0 | SFC48S24L491L-F | C | 4.91 |
| 525 Vac Oval 100 °C Case Temperature | | | |
| 16.0 | SFC52S16L391L-F | C | 3.91 |
| 26.0 | SFD52S26L391L-F | D | 3.91 |
| 32.0 | SFD52S32L391L-F | D | 3.91 |

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