

Type SF Motor-Run and Power Supply Capacitors

Oil Filled/Impregnated, AC Rated, Metallized Polypropylene Capacitors



Type SF, AC rated metallized polypropylene capacitors provide starting torque and power factor correction for split phase motors typically used in refrigeration and air conditioning motor-run applications. Type SF also may be used to provide noise suppression, voltage regulation and line current reduction in power supply applications.

Highlights

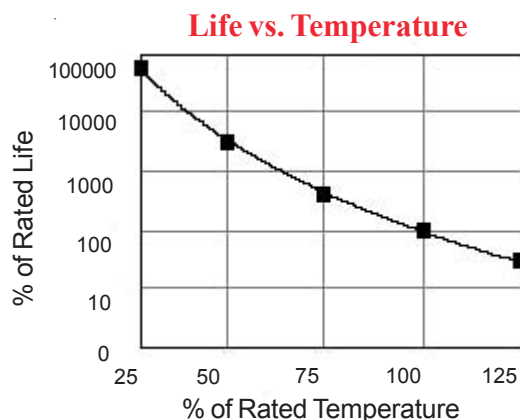
- ♦ Self healing
- ♦ Fault Current Protection up to 10,000 amps AFC
- ♦ Low energy consumption
- ♦ 4 - tine, 1/4" quick connect lug terminals are standard
- ♦ Meets EIA Standard EIA-456-A
- ♦ UL recognized File Number E71645
- ♦ CSA File Number 223507

Specifications

Capacitance Range:	5.0 μ F to 120.0 μ F
Voltage Range:	240 Vac to 660 Vac
Capacitance Tolerance:	$\pm 10\%$ standard, $\pm 6\%$ and $\pm 3\%$ available
Temperature Range:	-40°C to 70°C standard, 90°C available
Dissipation Factor:	$<0.1\%$

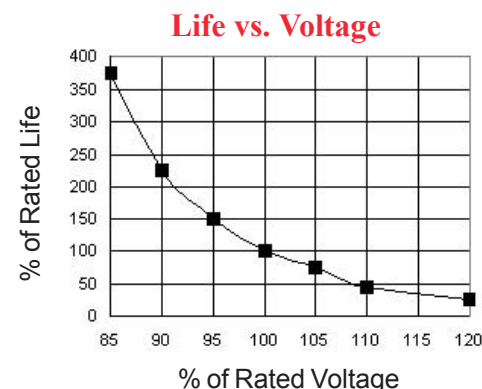
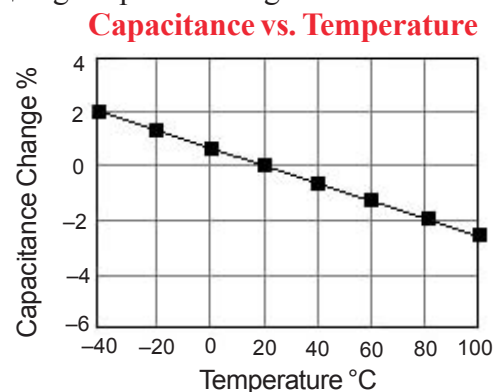
Service Life Objective

The service life objective for this series is 60,000 hours of operating life with a 94% survival rate when operated at full voltage, 60 Hz, and rated ambient temperature. AC capacitors are frequently used at voltages and ambient temperatures other than rated conditions. Service life may be estimated under specific conditions of temperature and voltage by using the curves as shown below and to the right.



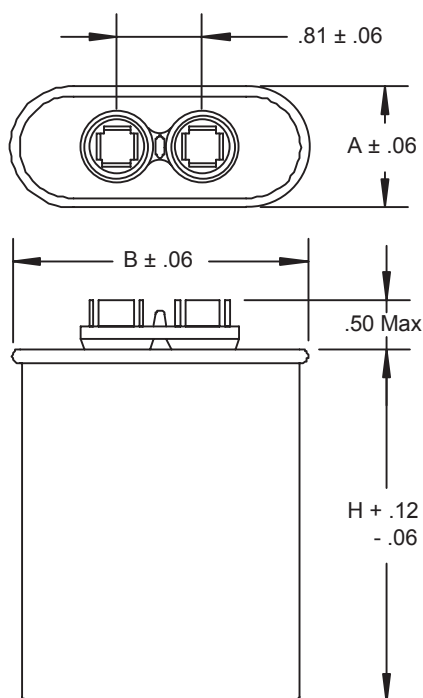
Capacitance vs. Temperature

The Capacitance vs. Temperature curve may be used to determine the capacitance change as a function of temperature. capacitance varies by no more than $\pm 3\%$ over the operating temperature range.



Type SF Motor-Run and Power Supply Capacitors

Type SF - Oval Case Style



Dimensions (Inches)			
Case Code	A	B	H
A	1.31	2.16	see table
C	1.91	2.91	see table
D	1.97	3.66	see table

Ratings - Oval Case Style

Cap. (μF)	Stock Items	Catalog Part Number	Case Code	H Inches
370 Vac 70 °C Case Temperature				
2.0	S	SFA37S2K219B	A	2.19
2.0	*	SFA37S2K156B	A	1.56
3.0	S	SFA37S3K219B	A	2.19
3.0	*	SFA37S3K156B	A	1.56
4.0	S	SFA37S4K219B	A	2.19
4.0	*	SFA37S4K156B	A	1.56
5.0	S	SFA37S5K219B	A	2.19
5.0	*	SFA37S5K156B	A	1.56
6.0	S	SFA37S6K219B	A	2.19
6.0	*	SFA37S6K156B	A	1.56
7.5	S	SFA37S7.5K219B	A	2.19
7.5	*	SFA37S7.5K156B	A	1.56
10.0	S	SFA37S10K288B	A	2.88
12.5	S	SFA37S12.5K288B	A	2.88
15.0	S	SFA37S15K288B	A	2.88
17.5	S	SFC37S17.5K291B	C	2.91
20.0	S	SFC37S20K291B	C	2.91
20.0	*	SFA37S20K375B	A	3.75
25.0	S	SFC37S25K291B	C	2.91
30.0	S	SFC37S30K291B	C	2.91
35.0	S	SFC37S35K291B	C	2.91
40.0	S	SFC37S40K391B	C	3.91
45.0	S	SFC37S45K391B	C	3.91
50.0	S	SFC37S50K391B	C	3.91
50.0	S	SFD37S50K391B	D	3.91

440 Vac 70 °C Case Temperature				
2.0	S	SFA44S2K203B	A	2.03
2.0	*	SFA44S2K156B	A	1.56
3.0	S	SFA44S3K209B	A	2.09
3.0	*	SFA44S3K156B	A	1.56
4.0	S	SFA44S4K209B	A	2.09
4.0	*	SFA44S4K156B	A	1.56
5.0	S	SFA44S5K219B	A	2.19
6.0	S	SFA44S6K288B	A	2.88
7.5	S	SFA44S7.5K288B	A	2.88
10.0	S	SFA44S10K375B	A	3.75
12.5	*	SFA44S12.5K375B	A	3.75
12.5	*	SFC44S12.5K291B	C	2.91
15.0	S	SFA44S15K375B	A	3.75
15.0	*	SFC44S15K291B	C	2.91
17.5	*	SFC44S17.5K291B	C	2.91
20.0	S	SFC44S20K391B	C	3.91
25.0	S	SFC44S25K391B	C	3.91
30.0	S	SFC44S30K391B	C	3.91
35.0	S	SFD44S35K391B	D	3.91
40.0	S	SFD44S40K391B	D	3.91
45.0	S	SFD44S45K391B	D	3.91
50.0	S	SFD44S50K391B	D	3.91
55.0	S	SFD44S55K391B	D	3.91
60.0	S	SFD44S60K391B	D	3.91

Ratings - Oval Case Style

Cap. (μF)	Stock Items	Catalog Part Number	Case Code	H (inches)
240 Vac Oval 70°C Case Temperature				
4.0	*	SFA24S4K219B	A	2.19
5.0	*	SFA24S5K219B	A	2.19
6.0	*	SFA24S6K219B	A	2.19
7.5	*	SFA24S7.5K219B	A	2.19
10.0	*	SFA24S10K219B	A	2.19
15.0	*	SFA24S15K263B	A	2.63
20.0	*	SFA24S20K303B	A	3.03
25.0	*	SFC24S25K269B	C	2.69
30.0	*	SFC24S30K269B	C	2.69
35.0	*	SFC24S35K269B	C	2.69
40.0	*	SFC24S40K303B	C	3.03
45.0	*	SFC24S45K303B	C	3.03
50.0	*	SFC24S50K303B	C	3.03
60.0	*	SFC24S60K388B	C	3.88
70.0	*	SFC24S70K388B	C	3.88

Ratings - Oval Case Style

Cap. (μ F)	Stock Items	Catalog Part Number	Case Code	H Inches
660 Vac 70 °C Case Temperature				
1.0	S	SFA66S1K156B	A	1.56
1.0	*	SFA66S1K219B	A	2.19
2.0	S	SFA66S2K156B	A	1.56
2.0	*	SFA66S2K219B	A	2.19
3.0	S	SFA66S3K288B	A	2.88
4.0	S	SFA66S4K288B	A	2.88
5.0	S	SFA66S5K375B	A	3.75
6.0	S	SFA66S6K375B	A	3.75
8.0	S	SFA66S8K475B	A	4.75
8.0	*	SFC66S8K291B	C	2.91
10.0	S	SFA66S10K475B	A	4.75
10.0	S	SFC66S10K291B	C	2.91
12.0	S	SFC66S12K391B	C	3.91
15.0	S	SFC66S15K391B	C	3.91
18.0	S	SFC66S18K391B	C	3.91
20.0	S	SFD66S20K391B	D	3.91
25.0	S	SFD66S25K391B	D	3.91
30.0	S	SFD66S30K391B	D	3.91
35.0	S	SFD66S35K491B	D	4.91
40.0	S	SFD66S40K491B	D	4.91

Options

- ♦ Tinplated steel cans are standard. Aluminum cases are available upon request.
- ♦ Tighter capacitance tolerances such as $\pm 3\%$ or $\pm 6\%$ are available.
- ♦ +90 °C ratings are available for HID lighting and power supply applications.
- ♦ Discharge resistors are available.
- ♦ Special terminal lugs such as 2 tines plus 1 fork lugs are available.
- ♦ Dual capacitance values are available for 370 Vac and 440 Vac applications.

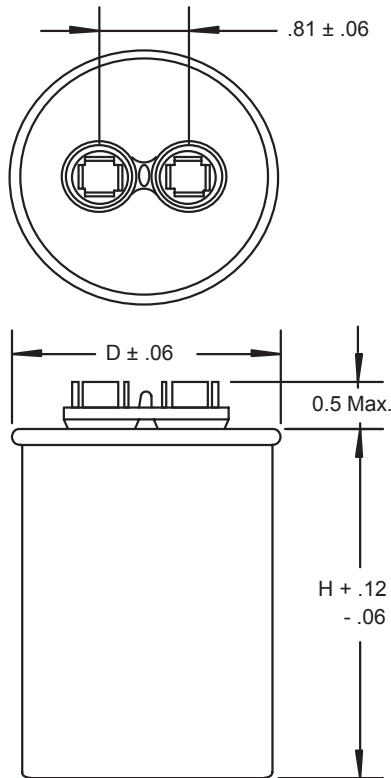
Hardware and Brackets: See Capacitor Hardware, page 5.000

Part Numbering System

SF Series	C Case	37 AC Volt	S Case Material	35 Cap	K Tol. $\pm\%$	291 Can Height	B VAR
SF	A = 1 1/4" Oval	24 = 240 Vac	S = Steel	7 = 7.0 μ F	L = $\pm 3\%$	238 = 2.38"	A = 2 way 70 °C
	B = 1 1/2" Oval	37 = 370 Vac	T = Aluminum with	35 = 35.0 μ F	H = $\pm 6\%$	291 = 2.91"	B = 4 way 70 °C
	C = 1 3/4" Oval	44 = 440 Vac	steel cover		K = $\pm 10\%$	388 = 3.88"	C = 2 way 90 °C
	D = 2.0" Oval	66 = 660 Vac	A = All Aluminum			475 = 4.75"	D = 4 way 90 °C
P = 1 3/4" Round		X = Other				488 = 4.88"	E = Dual 2,3,4 70 °C
S = 2.0" Round							F = Forks 70 °C
T = 2 1/2" Round							G = Forks 90 °C
							H = Forks 100 °C
							J = Forks, 70° Res.
							K = Forks, 90° Res.
							L = Forks, 100° Res.
							Z = Other

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Type SF - Round Case Style



Case Code

Case Code	D(Inches)	H
P	1.87	see table
S	2.12	see table
T	2.62	see table

Hardware and Brackets:
See page 5.000 for details

Cap (μF)	Stock Items	Catalog Part Number	Case Code	H (Inches)
370 Vac 70°C Case Temperature				
2.0	*	SFP37S2K238B	P	2.38
3.0	*	SFP37S3K238B	P	2.38
4.0	S	SFP37S4K238B	P	2.38
5.0	*	SFP37S5K238B	P	2.38
6.0	*	SFP37S6K238B	P	2.38
7.5	*	SFP37S7.5K238B	P	2.38
10.0	S	SFP37S10K238B	P	2.38
12.5	S	SFP37S12.5K238B	P	2.38
15.0	S	SFP37S15K238B	P	2.38
17.5	*	SFP37S17.5K238B	P	2.38
20.0	S	SFP37S20K238B	P	2.38
25.0	S	SFP37S25K288B	P	2.88
30.0	S	SFP37S30K288B	P	2.88
35.0	S	SFS37S35K288B	S	2.88
40.0	S	SFS37S40K288B	S	2.88
45.0	S	SFS37S45K375B	S	3.75
50.0	S	SFS37S50K375B	S	3.75
55.0	S	SFS37S55K375B	S	3.75
60.0	S	SFT37S60K303B	T	3.03
65.0	*	SFT37S65K303B	T	3.03
70.0	*	SFT37S70K303B	T	3.03
75.0	*	SFT37S75K391B	T	3.91
80.0	S	SFT37S80K391B	T	3.91
90.0	*	SFT37S90K391B	T	3.91
100.0	*	SFT37S100K391B	T	3.91
Cap (μF)	Stock Items	Catalog Part Number	Case Code	H (Inches)
440 Vac 70 °C Case Temperature				
2.0	*	SFP44S2K238B	P	2.38
3.0	*	SFP44S3K238B	P	2.38
4.0	*	SFP44S4K238B	P	2.38
5.0	*	SFP44S5K238B	P	2.38
6.0	*	SFP44S6K238B	P	2.38
7.5	*	SFP44S7.5K238B	P	2.38
10.0	S	SFP44S10K238B	P	2.38
12.5	*	SFP44S12.5K238B	P	2.38
15.0	S	SFP44S15K288B	P	2.88
17.5	*	SFP44S17.5K288B	P	2.88
20.0	S	SFP44S20K288B	P	2.88
25.0	*	SFS44S25K288B	S	2.88
30.0	S	SFS44S30K288B	S	2.88
35.0	*	SFT44S35K303B	T	3.03
40.0	S	SFT44S40K391B	T	3.91
45.0	*	SFT44S45K391B	T	3.91
50.0	S	SFT44S50K391B	T	3.91
55.0	*	SFT44S55K391B	T	3.91
60.0	S	SFT44S60K475B	T	4.75

Ratings - Round Case Style

Cap (μ F)	Stock Items	Catalog Part Number	Case Code	H (Inches)
660 Vac 70°C Case Temperature				
2.0	*	SFP66S2K238B	P	2.38
3.0	*	SFP66S3K238B	P	2.38
5.0	*	SFP66S5K238B	P	2.38
7.5	*	SFP66S7.5K288B	P	2.88
10.0	*	SFP66S10K288B	P	2.88
12.5	*	SFS66S12.5K288B	S	2.88
15.0	*	SFS66S15K375B	S	3.75
17.5	*	SFT66S17.5K388B	T	3.88
20.0	*	SFT66S20K388B	T	3.88
25.0	*	SFT366S25K488B	T	4.88
30.0	*	SFT66S30K488B	T	4.88
35.0	*	SFT66S35K488B	T	4.88
40.0	*	SFT66S40K488B	T	4.88

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	D = 2.0" Oval	66 = 660 Vac	A = All Aluminum		Z = Special	475 = 4.75"	D = 4 way 90 °C
		X = Other				488 = 4.88"	E = Dual 2,3,4 70 °C
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