Type SF Motor-Run and Power Supply Capacitors

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
- cULus recognized File Number E71645
- CSA File Number 223507 (*)

Specifications

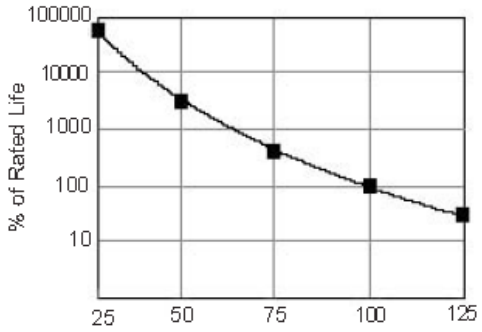
Click here to view hardware

Capacitance Range	1 µF to 100 µF
Capacitance Tolerance	±10% standard, ± 6% and ±3% available
Rated Voltage	240 Vac to 660 Vac
Operating Temperature Range	–40 ºC to 70 ºC standard, 90 ºC available
Dissipation Factor	<0.1%
Service Life Objective	60,000 h with 94% survival rate
Regulatory Information	

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.

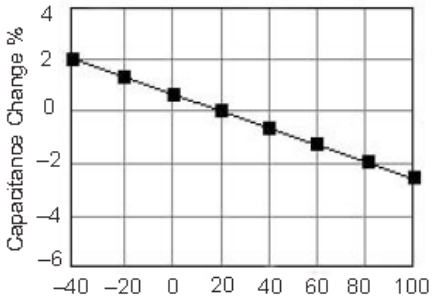
Life vs. Temperature



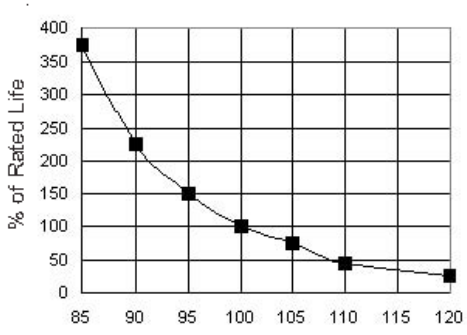
Capacitance vs. Temperature

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

Capacitance vs. Temperature



Life vs. Voltage



(*) Oil filled product only.

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Part Numbering System

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

Options

Capacitors in aluminum cases with mounting studs, are available upon request.

Tighter capacitance tolerances such as ±3% or ±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 lug are available.

Dual capacitance values are available for 370 Vac and 440 Vac applications.

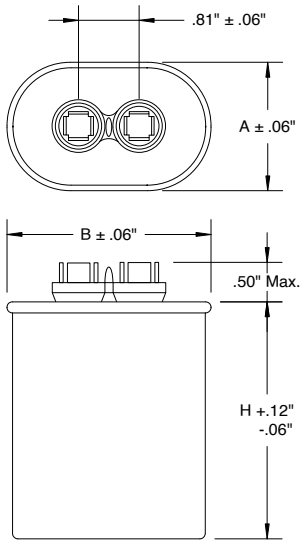
Dry construction available upon request.

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Oval Ratings

Oval Case Style*



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

Construction Details	
Case Material	Aluminum
Encapsulation	Enviromentally Safe Dielectric Fluid (Dry construction optional)
Terminal Material	Tin Plated Steel

*Note: The capacitor's safety pressure interrupter is designed to disconnect the capacitor element as the cover expands upward due to gas pressure build up. Catastrophic failure may result if movement of the cover and or terminals are restricted. Rigid bus bars are not recommended as they may restrict movement of the cover or terminals. Customers are advised to provide at least 0.5" clearance above the cover to allow for its expansion.

Cap. (µF)	Case Code	Aluminum Catalog Part Number	H (in)
240V			
4.0	A	SFA24T4K219B-F	2.19
5.0	A	SFA24T5K219B-F	2.19
6.0	A	SFA24T6K219B-F	2.19
7.5	A	SFA24T7.5K219B-F	2.19
10.0	A	SFA24T10K219B-F	2.19
15.0	A	SFA24T15K288B-F	2.88
20.0	A	SFA24T20K288B-F	2.88
25.0	C	SFC24T25K291B-F	2.91
30.0	C	SFC24T30K291B-F	2.91
35.0	C	SFC24T35K291B-F	2.91
40.0	C	SFC24T40K291B-F	2.91
45.0	C	SFC24T45K291B-F	2.91
50.0	C	SFC24T50K291B-F	2.91
60.0	C	SFC24T60K391B-F	3.91
70.0	C	SFC24T70K391B-F	3.91
370V			
2.0	A	SFA37T2K219B-F	2.19
2.0	A	SFA37T2K156B-F	1.56
3.0	A	SFA37T3K219B-F	2.19
3.0	A	SFA37T3K156B-F	1.56
4.0	A	SFA37T4K219B-F	2.19
4.0	A	SFA37T4K156B-F	1.56
5.0	A	SFA37T5K219B-F	2.19
5.0	A	SFA37T5K156B-F	1.56
6.0	A	SFA37T6K219B-F	2.19
6.0	A	SFA37T6K156B-F	1.56
7.5	A	SFA37T7.5K219B-F	2.19
10.0	A	SFA37T10K288B-F	2.88
12.5	A	SFA37T12.5K288B-F	2.88
15.0	A	SFA37T15K288B-F	2.88
17.5	C	SFC37T17.5K291B-F	2.91
20.0	C	SFC37T20K291B-F	2.91
20.0	A	SFA37T20K388B-F	3.88
25.0	C	SFC37T25K291B-F	2.91
30.0	C	SFC37T30K291B-F	2.91
35.0	C	SFC37T35K291B-F	2.91
40.0	C	SFC37T40K391B-F	3.91
45.0	C	SFC37T45K391B-F	3.91
50.0	C	SFC37T50K391B-F	3.91
440V			
2.0	A	SFA44T2K219B-F	2.19
2.0	A	SFA44T2K156B-F	1.56

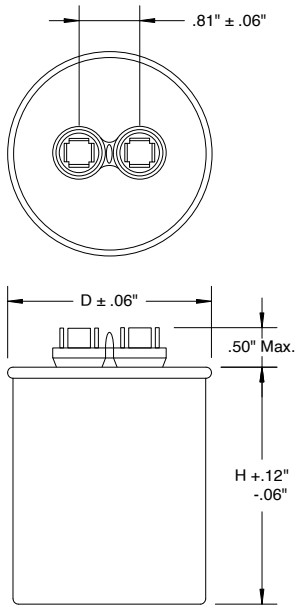
Cap. (µF)	Case Code	Aluminum Catalog Part Number	H (in)
440V			
3.0	A	SFA44T3K219B-F	2.19
3.0	A	SFA44T3K156B-F	1.56
4.0	A	SFA44T4K219B-F	2.19
4.0	A	SFA44T4K156B-F	1.56
5.0	A	SFA44T5K219B-F	2.19
6.0	A	SFA44T6K288B-F	2.88
7.5	A	SFA44T7.5K288B-F	2.88
10.0	A	SFA44T10K388B-F	3.88
12.5	A	SFA44T12.5K388B-F	3.88
12.5	C	SFC44T12.5K291B-F	2.91
15.0	A	SFA44T15K388B-F	3.88
15.0	C	SFC44T15K291B-F	2.91
17.5	C	SFC44T17.5K291B-F	2.91
20.0	C	SFC44T20K391B-F	3.91
25.0	C	SFC44T25K391B-F	3.91
30.0	C	SFC44T30K391B-F	3.91
35.0	D	SFD44T35K391B-F	3.91
40.0	D	SFD44T40K391B-F	3.91
45.0	D	SFD44T45K391B-F	3.91
50.0	D	SFD44T50K391B-F	3.91
55.0	D	SFD44T55K391B-F	3.91
60.0	D	SFD44T60K391B-F	3.91
660V			
1.0	A	SFA66T1K156B-F	1.56
1.0	A	SFA66T1K219B-F	2.19
2.0	A	SFA66T2K156B-F	1.56
2.0	A	SFA66T2K219B-F	2.19
3.0	A	SFA66T3K288B-F	2.88
4.0	A	SFA66T4K288B-F	2.88
5.0	A	SFA66T5K388B-F	3.88
6.0	A	SFA66T6K388B-F	3.88
8.0	A	SFA66T8K475B-F	4.75
8.0	C	SFC66T8K291B-F	2.91
10.0	A	SFA66T10K475B-F	4.75
10.0	C	SFC66T10K291B-F	2.91
12.0	C	SFC66T12K391B-F	3.91
15.0	C	SFC66T15K391B-F	3.91
18.0	C	SFC66T18K391B-F	3.91
20.0	D	SFD66T20K391B-F	3.91
25.0	D	SFD66T25K391B-F	3.91
30.0	D	SFD66T30K391B-F	3.91
35.0	D	SFD66T35K475B-F	4.75
40.0	D	SFD66T40K475B-F	4.75

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Round Ratings

Round Case Style



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

Construction Details	
Case Material	Aluminum
Encapsulation	Enviromentally Safe Dielectric Fluid (Dry construction optional)
Terminal Material	Tin Plated Steel

Note: The capacitor's safety pressure interrupter is designed to disconnect the capacitor element as the cover expands upward due to gas pressure build up. Catastrophic failure may result if movement of the cover and or terminals are restricted. Rigid bus bars are not recommended as they may restrict movement of the cover or terminals. Customers are advised to provide at least 0.5" clearance above the cover to allow for its expansion.

Cap. (µF)	Case Code	Aluminum Catalog Part Number	H (in)
370V			
2.0	P	SFP37T2K238B-F	2.38
3.0	P	SFP37T3K238B-F	2.38
4.0	P	SFP37T4K238B-F	2.38
5.0	P	SFP37T5K238B-F	2.38
6.0	P	SFP37T6K238B-F	2.38
7.5	P	SFP37T7.5K238B-F	2.38
10.0	P	SFP37T10K238B-F	2.38
12.5	P	SFP37T12.5K238B-F	2.38
15.0	P	SFP37T15K238B-F	2.38
17.5	P	SFP37T17.5K238B-F	2.38
20.0	P	SFP37T20K238B-F	2.38
25.0	P	SFP37T25K284B-F	2.84
30.0	P	SFP37T30K284B-F	2.84
35.0	S	SFS37T35K291B-F	2.91
40.0	S	SFS37T40K291B-F	2.91
45.0	S	SFS37T45K384B-F	3.84
50.0	S	SFS37T50K384B-F	3.84
55.0	S	SFS37T55K384B-F	3.84
60.0	T	SFT37T60K291B-F	2.91
65.0	T	SFT37T65K291B-F	2.91
70.0	T	SFT37T70K291B-F	2.91
75.0	T	SFT37T75K391B-F	3.91
80.0	T	SFT37T80K391B-F	3.91
90.0	T	SFT37T90K475B-F	4.75
100.0	T	SFT37T100K475B-F	4.75
440V			
2.0	P	SFP44T2K238B-F	2.38
3.0	P	SFP44T3K238B-F	2.38
4.0	P	SFP44T4K238B-F	2.38

Cap. (µF)	Case Code	Aluminum Catalog Part Number	H (in)
440V			
5.0	P	SFP44T5K238B-F	2.38
6.0	P	SFP44T6K238B-F	2.38
7.5	P	SFP44T7.5K238B-F	2.38
10.0	P	SFP44T10K238B-F	2.38
12.5	P	SFP44T12.5K238B-F	2.38
15.0	P	SFP44T15K284B-F	2.84
17.5	P	SFP44T17.5K284B-F	2.84
20.0	P	SFP44T20K284B-F	2.84
25.0	S	SFS44T25K291B-F	2.91
30.0	S	SFS44T30K291B-F	2.91
35.0	T	SFT44T35K291B-F	2.91
40.0	T	SFT44T40K391B-F	3.91
45.0	T	SFT44T45K391B-F	3.91
50.0	T	SFT44T50K391B-F	3.91
55.0	T	SFT44T55K391B-F	3.91
60.0	T	SFT44T60K475B-F	4.75
660V			
2.0	P	SFP66T2K238B-F	2.38
3.0	P	SFP66T3K238B-F	2.38
5.0	P	SFP66T5K238B-F	2.38
7.5	P	SFP66T7.5K284B-F	2.84
10.0	P	SFP66T10K284B-F	2.84
12.5	S	SFS66T12.5K291B-F	2.91
15.0	S	SFS66T15K384B-F	3.84
17.5	T	SFT66T17.5K391B-F	3.91
20.0	T	SFT66T20K391B-F	3.91
25.0	T	SFT66T25K475B-F	4.75
30.0	T	SFT66T30K475B-F	4.75
35.0	T	SFT66T35K475B-F	4.75
40.0	T	SFT66T40K475B-F	4.75

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