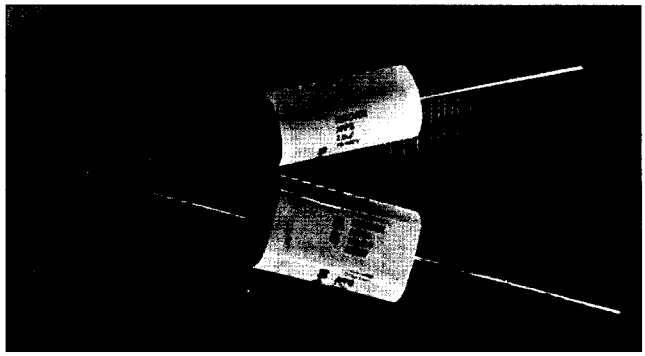
Aerovox® Group

Blue Mike

AC Rated Dry Unprotected Film Capacitors



Applications

- Motors
- Appliances
- Business Machines
- Pumps
- Fans
- Electric Tools

General Description

Dielectric: Self clearing dry metallized polyester (types AREM and AFEO) or polypropylene (types ARPS and AFPS) film dependent on application performance requirements.

Enclosure: UL 94 V-O and IEC 695-2-2 flame retardant tape wrapped with resin end fill. **(Consult factory for safety protected designs.)**

Marking: Ink stamped with Aerovox part number, capacitance value, nominal AC voltage, temperature rating, and date code at a minimum.

Terminals: Tinned copper wire, AWG 18 or 20, to length specified in outline drawing on page 3. (Consult factory for single AMP 187 or 250 tinned plated steel fastons which are available dependent on rating.)

Electrical Characteristics

Capacitance: Values from 1.0 µF to 20 µF are available at ±10% tolerance measured at 1 KHz, 25°C.

Voltage: Available at 160, 220 and 250 VAC. Refer to rated life expectancy curves vs. RMS operating voltage and ambient temperature. End of life failure criterion under normal conditions is a capacitance change from initial value in excess of 5%. (Equivalent DC voltage ratings are also available.)

Temperature: Capacitors will operate continuously over a temperature range of -40° to +85°C.

Dissipation Factor: Shall be less than 0.8% for types AREM and AFEO, and 0.1% at 1 KHz, 25°C for types ARPS and AFPS.

Insulation Resistance: Measured after 2 minutes charged at 100 VDC as shown in graph at right.

Test Specifications

Dielectric Strength: Capacitors shall withstand 2x rated voltage for a period of 1 second.

Case Ground Test: Capacitors shall withstand 2x rated voltage plus 1000 VAC for 1 second between terminals and case.

Humidity Resistance: After 500 hours at 40°C ambient temperature, 93% relative humidity, 0 VAC applied:

- Capacitance change less than 3% of initial value.
- Dissipation factor less than 125% of initial value.
- Insulation resistance greater than 10% of initial value.

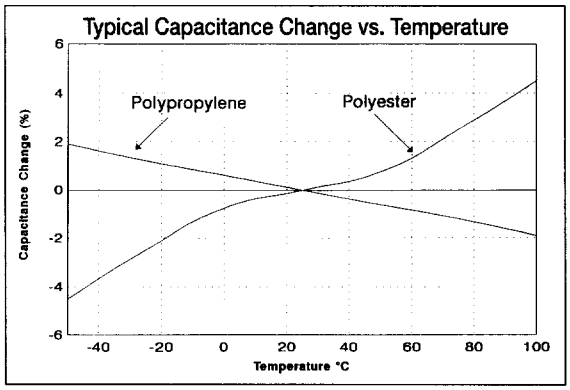
Lead Strength: Leads shall withstand the following:

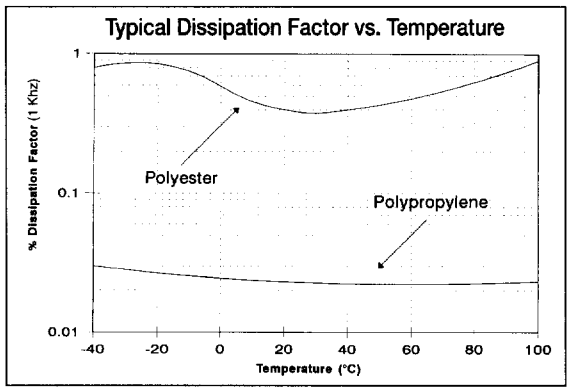
- A tensile force of 5 lbs. gradually applied in an axial direction for a period of 5 seconds.
- Two 90° bends at the point of egress in any direction and back to initial axial position.
- Resistance to solder heat of 260°C for 10 seconds with a capacitance change of less than 2%.

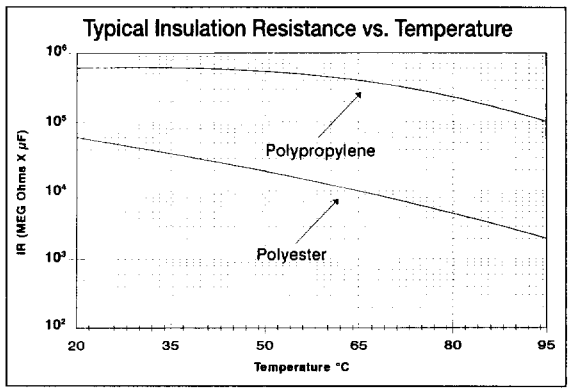
Life Test: After 1000 hours at 80°C ambient temperature, with 110% of rated voltage applied to types AREM and AFEO, and 120% applied to ARPS and AFPS:

- Capacitance change less than 5% of initial value.
- Dissipation factor less than 125% of initial value.
- Insulation resistance greater than 50% of initial value.

Service Life: The capacitor dielectric system is designed to meet or exceed the performance and reliability requirements of the specific application. Voltage and temperature curves for predicting service life performance with a 94% survival rate are shown in the graphs on page 4.







Blue Mike

Standard Ratings

ARPS Round
250 VAC (400 VDC) Nominal

CATALOG PART NUMBER	MFD	D (Inches) (Max)	L (Inches) ±.05"	LEAD AWG
ARPS0010540KCA	1.0	.500	1.25	20
ARPS0015540KDA	1.5	.600	1.25	20
ARPS0020540KEA	2.0	.680	1.25	20
ARPS0022540K1A	2.2	.709	1.25	20
ARPS0030540K1U	3.0	.709	1.75	20
ARPS0033540K2U	3.3	.730	1.75	20
ARPS0040540K2U	4.0	.780	1.75	20
ARPS0047540K3U	4.7	.840	1.75	18
ARPS0050540K3U	5.0	.860	1.75	18
ARPS0060540K4U	6.0	.940	1.75	18
ARPS0068540K3X	6.8	.860	2.25	18
ARPS0070540K3X	7.0	.870	2.25	18
ARPS0080540K4X	8.0	.920	2.25	18
ARPS0090540K4X	9.0	.970	2.25	18
ARPS0010640K9X	10.0	1.000	2.25	18
ARPS0011640K5X	11.0	1.060	2.25	18
ARPS0012640K5X	12.0	1.120	2.25	18

AFPS Flat
250 VAC (400 VDC) Nominal

CATALOG PART NUMBER	MFD	T (In) (Max)	H (In) (Max)	L (In) ±.05"	LEAD AWG
AFPS0010540KJP	1.0	.36	.615	1.25	20
AFPS0015540KNP	1.5	.45	.750	1.25	20
AFPS0020540K2P	2.0	.50	.820	1.25	20
AFPS0022540KFB	2.2	.54	.840	1.25	20
AFPS0030540KGB	3.0	.64	.940	1.25	20
AFPS0033540KGB	3.3	.69	.930	1.25	20
AFPS0040540KAD	4.0	.59	.900	1.75	20
AFPS0047540KAD	4.7	.64	.950	1.75	18
AFPS0050540KFD	5.0	.67	1.000	1.75	18
AFPS0060540KGD	6.0	.72	1.090	1.75	18
AFPS0068540KAE	6.8	.67	.960	2.25	18
AFPS0070540KAE	7.0	.60	1.090	2.25	18
AFPS0080540KBE	8.0	.62	1.150	2.25	18
AFPS0090540KBE	9.0	.70	1.180	2.25	18
AFPS0010640KBE	10.0	.75	1.280	2.25	18
AFPS0011640KCE	11.0	.80	1.280	2.25	18
AFPS0012640KCE	12.0	.82	1.320	2.25	18

ARPS Round
220 VAC (300 VDC) Nominal

CATALOG PART NUMBER	MFD	D (Inches) (Max)	L (Inches) ±.05"	LEAD AWG
ARPS0010530KRO	1.0	.495	1.05	20
ARPS0015530KTO	1.5	.571	1.05	20
ARPS0020530KUP	2.0	.591	1.25	20
ARPS0022530KVP	2.2	.615	1.25	20
ARPS0030530K1P	3.0	.709	1.25	20
ARPS0033530K2P	3.3	.750	1.25	20
ARPS0040530K2P	4.0	.800	1.25	20
ARPS0047530K1U	4.7	.720	1.75	20
ARPS0050530K2U	5.0	.740	1.75	20
ARPS0060530K2U	6.0	.800	1.75	20
ARPS0068530K3U	6.8	.850	1.75	20
ARPS0070530K3U	7.0	.865	1.75	20
ARPS0080530K4U	8.0	.910	1.75	20
ARPS0090530K4U	9.0	.960	1.75	20
ARPS0010630K4U	10.0	1.000	1.75	20
ARPS0011630K5U	11.0	1.050	1.75	18
ARPS0012630K5U	12.0	1.085	1.75	18
ARPS0013630K5V	13.0	1.200	1.89	18
ARPS0014630K6V	14.0	1.220	1.89	18
ARPS0015630K6V	15.0	1.260	1.89	18
ARPS0016630K6V	16.0	1.290	1.89	18
ARPS0017630K6V	17.0	1.335	1.89	18
ARPS0018630K6V	18.0	1.360	1.89	18
ARPS0019630K6V	19.0	1.400	1.89	18
ARPS0020630K7V	20.0	1.430	1.89	18

AFPS Flat
220 VAC (300 VDC) Nominal

CATALOG PART NUMBER	MFD	T (In) (Max)	H (In) (Max)	L (In) ±.05"	LEAD AWG
AFPS0010530KFP	1.0	.295	.550	1.25	20
AFPS0015530KJP	1.5	.374	.630	1.25	20
AFPS0020530KKP	2.0	.400	.750	1.25	20
AFPS0022530KNP	2.2	.450	.780	1.25	20
AFPS0030530KRP	3.0	.500	.865	1.25	20
AFPS0033530KSP	3.3	.550	.880	1.25	20
AFPS0040530KUP	4.0	.600	.980	1.25	20
AFPS0047530KYP	4.7	.650	1.040	1.25	20
AFPS0050530KYP	5.0	.660	1.050	1.25	20
AFPS0060530KSR	6.0	.551	1.020	1.70	20
AFPS0068530KTR	6.8	.580	1.065	1.70	20
AFPS0070530KUR	7.0	.590	1.080	1.70	20
AFPS0080530KVR	8.0	.625	1.150	1.70	20
AFPS0090530KYR	9.0	.700	1.180	1.70	20
AFPS0010630KWW	10.0	.640	1.150	2.10	20
AFPS0011630KYW	11.0	.680	1.150	2.10	20
AFPS0012630K1W	12.0	.720	1.220	2.10	20
AFPS0013630K2W	13.0	.740	1.250	2.10	20
AFPS0014630K1X	14.0	.720	1.220	2.26	18
AFPS0015630K2X	15.0	.760	1.250	2.26	18
AFPS0016630K2X	16.0	.800	1.290	2.26	18
AFPS0017630K3X	17.0	.820	1.320	2.26	18
AFPS0018630K3X	18.0	.850	1.350	2.26	18
AFPS0019630K3X	19.0	.890	1.370	2.26	18
AFPS0020630K3X	20.0	.900	1.400	2.26	18

Aerovox® Group
An ISO 9000 Company

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TEL (508) 994-9661 FAX (508) 999-1000

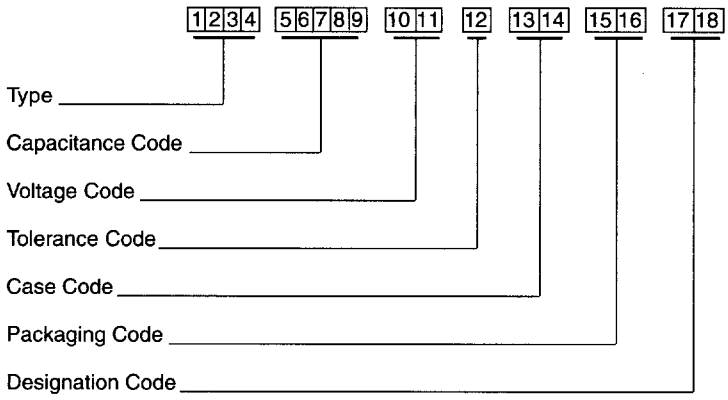
AREM Round
160 VAC (250 VDC) Nominal

CATALOG PART NUMBER	MFD	D (Inches) (Max)	L (Inches) ±.05"	LEAD AWG
AREM0010525KLO	1.0	.413	1.05	20
AREM0015525KOO	1.5	.472	1.05	20
AREM0020525KPO	2.0	.500	1.05	20
AREM0022525KPO	2.2	.512	1.05	20
AREM0030525KTP	3.0	.571	1.25	20
AREM0033525KWP	3.3	.630	1.25	20
AREM0040525KVP	4.0	.650	1.25	20
AREM0047525KYP	4.7	.669	1.25	20
AREM0050525KIP	5.0	.709	1.25	20
AREM0060525KWV	6.0	.630	1.76	20
AREM0068525KYU	6.8	.669	1.76	20
AREM0070525KYU	7.0	.680	1.76	20
AREM0080525K2U	8.0	.730	1.76	18
AREM0090525K2U	9.0	.780	1.76	18
AREM0010625K2U	10.0	.807	1.76	18
AREM0011625K3U	11.0	.830	1.76	18
AREM0012625K3U	12.0	.886	1.76	18
AREM0013625K3U	13.0	.900	1.76	18
AREM0014625K4U	14.0	.930	1.76	18
AREM0015625K4U	15.0	.965	1.76	18
AREM0016625K4U	16.0	.980	1.76	18
AREM0017625K5U	17.0	1.020	1.76	18
AREM0018625K5U	18.0	1.040	1.76	18
AREM0019625K5U	19.0	1.065	1.76	18
AREM0020625K5U	20.0	1.080	1.76	18

AFEO Flat
160 VAC (250 VDC) Nominal

CATALOG PART NUMBER	MFD	T (In) (Max)	H (In) (Max)	L (In) ±.05"	LEAD AWG
AFEO0010525KIL	1.0	.295	.551	.95	20
AFEO0015525KJK	1.5	.374	.630	.95	20
AFEO0020525KKO	2.0	.394	.669	1.05	20
AFEO0022525KLO	2.2	.413	.669	1.05	20
AFEO0030525KKP	3.0	.394	.780	1.25	20
AFEO0033525KLP	3.3	.413	.800	1.25	20
AFEO0040525KNP	4.0	.454	.940	1.25	20
AFEO0047525KPP	4.7	.472	.965	1.25	20
AFEO0050525KPP	5.0	.494	.980	1.25	20
AFEO0060525KKU	6.0	.394	.900	1.76	20
AFEO0068525KPU	6.8	.494	.900	1.76	20
AFEO0070525KNU	7.0	.454	.950	1.76	20
AFEO0080525KRU	8.0	.494	.980	1.76	20
AFEO0090525KSU	9.0	.530	1.020	1.76	20
AFEO0010625KSV	10.0	.554	1.050	1.76	20
AFEO0011625KRX	11.0	.494	.980	2.26	18
AFEO0012625KRX	12.0	.512	1.020	2.26	18
AFEO0013625KSX	13.0	.551	1.050	2.26	18
AFEO0014625KTX	14.0	.575	1.070	2.26	18
AFEO0015625KUX	15.0	.600	1.080	2.26	18
AFEO0016625KVX	16.0	.630	1.150	2.26	18
AFEO0017625KWX	17.0	.650	1.180	2.26	18
AFEO0018625KYX	18.0	.670	1.200	2.26	18
AFEO0019625K1X	19.0	.709	1.220	2.26	18
AFEO0020625K2X	20.0	.730	1.250	2.26	18

Part Numbering System



Digits 1-4 / Type

Code

AFEO ..... Axial Flat Polyester Metallized
AFPS ..... Axial Flat Polypropylene Metallized
AREM ..... Axial Round Polyester Metallized
ARPS ..... Axial Round Polypropylene Metallized

Digits 5-9 / Capacitance

5-8 indicate capacitance expressed in picofarads. The 9 digit indicates the number of zeros that must be added to obtain rated capacitance.

Digits 10-11 / Voltage

Code	Voltage
25	160 VAC (250 VDC)
30	220 VAC (300 VDC)
40	250 VAC (400 VDC)

Digit 12 / Tolerance

Code	Tolerance
K	±10%

(±5% tolerance available on special request)

Digits 13-14 / Case

① Axial - Diameter or thickness and length

Case code assigned by factory. Case measurements are in inches.

Digits 15-16 / Packaging

Code

BK Bulk packed

(Tape and reeled packaging availability is dependent on rating.)

Digits 17 and 18 / Designation

These last two digits are for standard catalog products or special requirements.

Example: ZZ Standard catalog
SA Special customer requirements

Note: * Any additional requirements not covered above should be called out specifically at time of order entry.

* Aerovox may issue a special part number for documentation control for specific customer application requirements.

DATE CODE / Where applicable

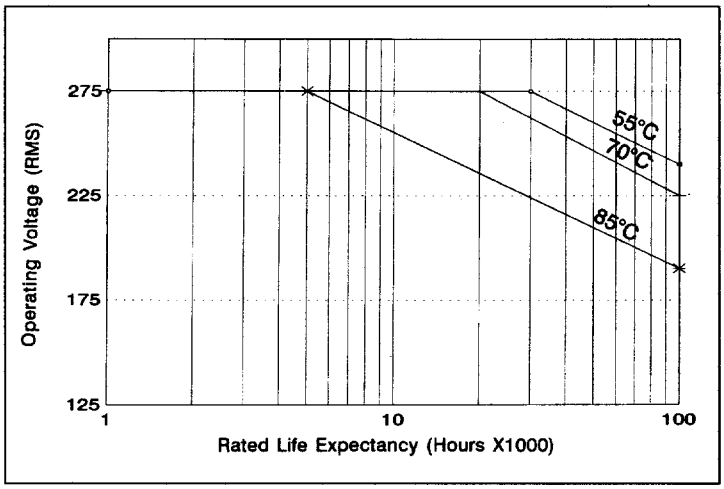
Digits 1 and 2 are for the year, digits 3 and 4 are for the week.

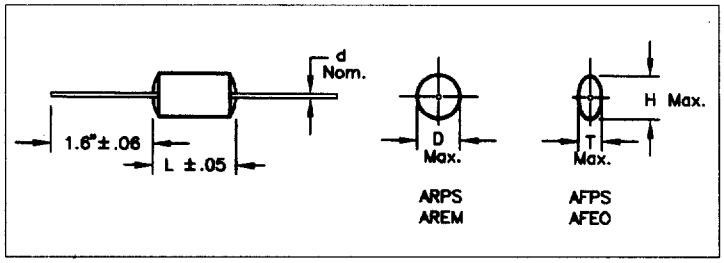
Example: Part manufactured on June 24, 1993 would read

1	2	3	4
9	3	2	5

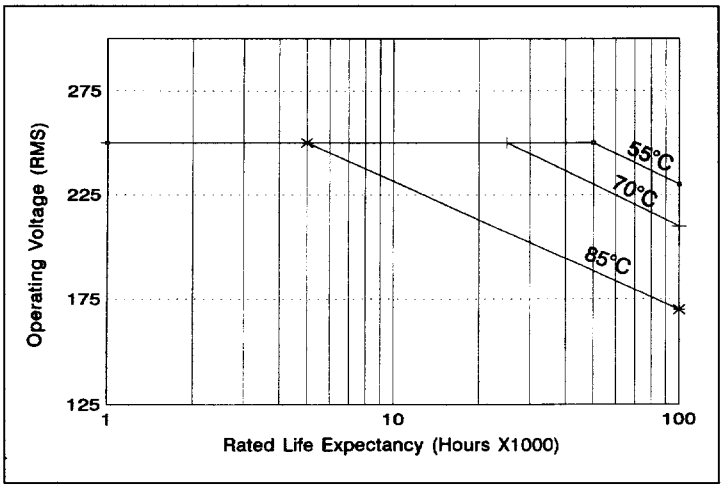
Rated Life Expectancy vs. RMS Voltage at Ambient Temperature

ARPS/AFPS 250 VAC / 400 VDC Nominal





ARPS/AFPS 220 VAC / 300 VDC Nominal



Represented by:

AREM/AFEO 160 VAC / 250 VDC Nominal