

# REL MultiCap™ - Series PPFXS

The PPFX-S series of the MultiCap™ reduces typical capacitor loss factors with a patented design that winds capacitors coaxially one upon the other, into a single, self-bypassed unit. Since each section is parallel, the inductance of the overall capacitor is reduced by the number of sections used - typically 10. Inductance characteristics never exceed those of a piece of lead wire the same length as the capacitor's body. Measured ESR values are 5 to 10 times lower than conventional designs (see Figure 1). Dielectric absorption is very low, making the PPFXS desirable in high-speed circuits. In its overall reduction of parasitics, this series comes closest to the RTX in measured performance, yet can tolerate higher temperatures (105 degrees C). It is ideal for use in all applications where low ESR, low DF, and high current are important, and wherever the finest film and foil capacitors are required.

**Capacitance Values:**

.01 to 12.0 uf. Special values on request.

**Tolerances:**

+/- 10%. Special tolerances on request.

**Working Voltages:**

100, 200, 400, 600; 800 on request

**Test Volts:**

2.0 x rated voltage for one minute.

**Dissipation Factor:**

< 0.05% 1.0 - 10.0 uf @ 1kHz @ 25 degrees C  
 < 0.05% > 10.0 uf @ 120 Hz @ 25 degrees C  
 < 0.03% .1 - 1.0 uf @ 1kHz @ 25 degrees C  
 < 0.02% .001 - .1 uf @ 1kHz @ 25 degrees C

**Insulation Resistance:**

>300,000 megohm/ufd

**Operating Temperature Range:**

- 55 to 105 degree C

**Temperature Coefficient:**

-150 PPM/degree C

**Life Tests:**

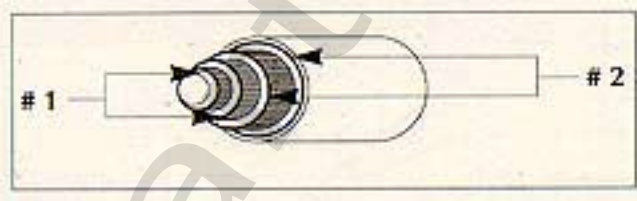
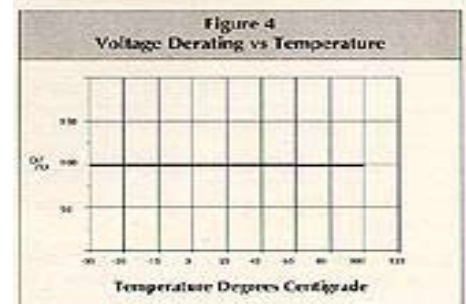
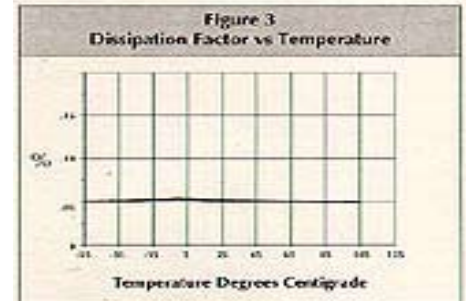
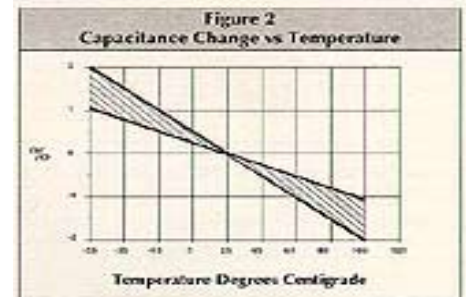
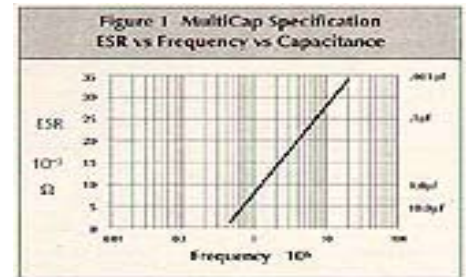
Rated voltage @ 85 degrees C for 1000 hrs

**Vibration:**

Will meet Mil-C-19978B

**Lead Material:**

Tin-plated copper. Others available on request.



A cross-sectional drawing (leads removed) showing the coaxial construction of a MultiCap™. For simplicity's sake, only two of the 10 sections are included.


**DIMENSIONS (INCHES) - MultiCap™ PPFX-S - AXIAL LEADS, OVAL CASE**

Capacitance in ufd	100 VDC w x h x l	200 VDC w x h x l	400 VDC w x h x l	600 VDC w x h x l
.10	--	--	.32 x .52 x 1.0	.42 x .62 x 1.1
.15	--	--	.42 x .62 x 1.1	.42 x .62 x 1.2
.22	--	--	.42 x .62 x 1.1	.52 x .72 x 1.2
.33	--	--	.52 x .72 x 1.3	.62 x .82 x 1.3
.47	--	--	.52 x .82 x 1.3	.72 x .92 x 1.3
.68	--	--	.62 x .92 x 1.4	.72 x .92 x 1.8
1.0	.52 x .72 x 1.3	.62 x .92 x 1.3	.72 x 1.2 x 1.3	.82 x 1.2 x 1.8
1.5	.62 x .72 x 1.3	.72 x 1.2 x 1.3	--	--
2.0	.72 x 1.2 x 1.3	.92 x 1.2 x 1.3	--	--
3.0	.92 x 1.2 x 1.3	.90 x 1.2 x 1.8	--	--
4.0	.92 x 1.2 x 1.3	1.2 x 1.4 x 1.8	--	--
5.0	.92 x 1.2 x 1.8	1.4 x 1.5 x 1.8	--	--
6.0	.92 x 1.4 x 1.8	1.4 x 1.5 x 1.8	--	--
7.0	1.3 x 1.5 x 1.8	1.3 x 1.5 x 2.3	--	--
8.0	1.3 x 1.5 x 1.8	1.5 x 1.8 x 2.3	--	--
9.0	1.4 x 1.6 x 1.8	1.6 x 1.8 x 2.3	--	--
10.0	1.5 x 1.6 x 1.8	1.6 x 1.8 x 2.3	--	--
12.0	1.6 x 1.8 x 2.0	1.7 x 1.8 x 2.3	--	--

**PPFX-S**  
Polypropylene & Tin

<b>Voltage</b>	<b>Microfarads</b>	<b>Gauge Wire</b>
100V	1.0	20GA
	2.0 - 10.0	18GA
200V	.1 - .22	22GA
	1.0 - 1.5	20GA
	2.0	18GA
	3.0 - 12.0	16GA
400V	.022 - .01	22GA
	.10 - .68	20GA
	1.0	18GA
	2.0	16GA
600V	.01 - .33	20GA
	.47	18GA
	.68 - 1.0	16GA
800V	.01	22GA
	.22	20GA
	.47	18GA

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**Lead Diameters: .025" for caps 1/4 - 1/2" long; .032" for caps 1/2 - 3/4" long; .04" for caps 3/4 - 1" long; .051" for caps over 1" long.**

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