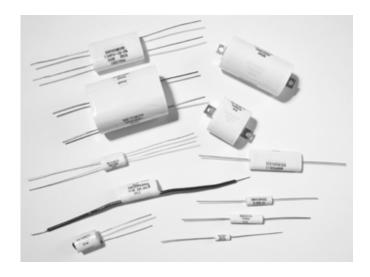


# **Patented Pulse Capacitor Technology**

At the leading edge of film capacitor technology®



### **Design Parameters/Characteristics:**

- ✓ Extreme Long-Life Reliability OR Designed to Specific Lifetime Requirements
- ✓ No Runaway or Catastrophic Failure Mode
- ✓ Design Flexibility to Minimize System Loop Inductance
- Greater Performance with Less Volume

#### Capabilities:

**Dielectric:** Polypropylene and Polyester

**Packaging:** Radial/Axial Leads, Round/Pressed profiles

Specific terminals/form factors to meet critical dimensions

**Construction:** Metallized or Film/Foil, Non-Inductively Wound

Single & Series-Section Designs

Capacitance: 0.01 to  $1000 \mu F$ Tolerance:  $\pm 1\%$  to  $\pm 10\%$ 

Voltage: 100 to 5000 VDC (per individual capacitor) dV/dt: Improved by 1000% over conventional designs

SBE has been designing and manufacturing film capacitors for over 45 years. Contact our design team today with your demanding requirements, and let us help you develop a solution!

SBE reserves the right to amend design data

#SBEPatentedPulse/9/13

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# **Patented Pulse Capacitor Technology**

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# Performance Test Data Analysis 0.33 $\mu$ F, $\pm 10\%$ , 2000 VDC

**Specifications Dimensions** 

**Dielectric:** Metallized Polyester Length: 0.98" **Packaging:** Radial Lead, Conformal Coated **Thickness:** 0.87" **Construction:** Series-Section, Non-Inductively Wound Height: 1.18" Capacitance:  $0.33 \mu F, \pm 10\%$ **Lead Spacing:** 0.83" **Voltage:** 2000 VDC/500 VAC Lead Length: 0.25" dV/dt: 17,500 Volts/µsec. Lead Wire: **18 AWG Peak Current:** 5,800 Amps Copper

#### Test conditions for

**above specified part:** Test Voltage = 2 KVDC. All data readings taken at 100 KHz, +25°C

1,000 discharges into a solid copper plate, 1 pulse per second

Discharge loop inductance 27.5 nH (derived from discharge ringing frequency)

Measurements taken utilizing a 4-wire connection

	<u>Capacitance</u>	<b>Dissipation Factor</b>	<u>ESR</u>
<b>Initial Reading</b>	333 nF	0.014	$71~\mathrm{m}\Omega$
Final Reading	256 nF	0.020	$123~\mathrm{m}\Omega$

Capacitance dropped ~23%, however remaining capacitance was of good quality.

Test results from a similar SBE design using high quality standard material of the same thickness; however, readings taken after *only 100* discharges:

	<u>Capacitance</u>	<u>Dissipation Factor</u>	<u>ESR</u>
<b>Initial Reading</b>	219 nF	0.013	$95~\mathrm{m}\Omega$
Final Reading	145 nF	0.182	$2000~\text{m}\Omega$

This data is not intended for system design specification, but rather to illustrate a performance extreme. Please contact SBE's Application Engineering Department to discuss your specific application requirements.