

**Power Ring Film Capacitor™**  
**50 $\mu$ F, 8,000Vdc**

*The 775D506980-106 Power Ring is a 8,000Vdc, 50 $\mu$ F high voltage pulse capacitor.*

**Electrical Specifications****SBE Part #:** 775D506980-106**Capacitance/Tolerance:** 50 $\mu$ F  $\pm$ 10%**DC Voltage Rating:** 8,000Vdc

**NOTE:** This capacitor is specifically designed to withstand repetitive pulse discharges at high pulse currents with longer life than exhibited by more typical metallized High Voltage film capacitors. However, this capacitor is not recommended for applications requiring continuous voltage (constant charge) unless de-rated to 4,000Vdc Maximum. For a technical explanation and further information on the intended uses for this design please contact SBE engineering.

**Dielectric/Construction:** Patented pulse technology Metallized Polypropylene film. Series-section design, non-inductively wound.

**Dielectric Withstand Voltage:** Units 100% tested at DC potential of 9,000Vdc for two minutes at 25°C.

**Peak-to-Peak Voltage:** 10,000 V Max

When operated at this peak-to-peak voltage the capacitor can be expected to withstand  $\sim$ 5,000 discharges.

Reducing this value to 7,500 V peak-to-peak will increase discharge life on the order of 10 times. Further reducing this value to 5,600 V peak-to-peak will increase this discharge life more than 1,000 times.

Reducing the Q of the discharge circuit will improve shot life for all cases. End of life for the above estimates is 10% capacitance reduction.

**Insulation resistance:** 2,000 M $\Omega$  Min at +25°C**ESR @ 10 kHz:** < 0.2 m $\Omega$  Min at +25°C, typical

**ESL:**  $\sim$  50 nH, minimum inductance connection. The actual capacitor loop inductance will depend on the application interconnect design.

**Operating Temperature:** -40°C to +85°C**Peak Current Rating:** 100,000 Amps repetitive

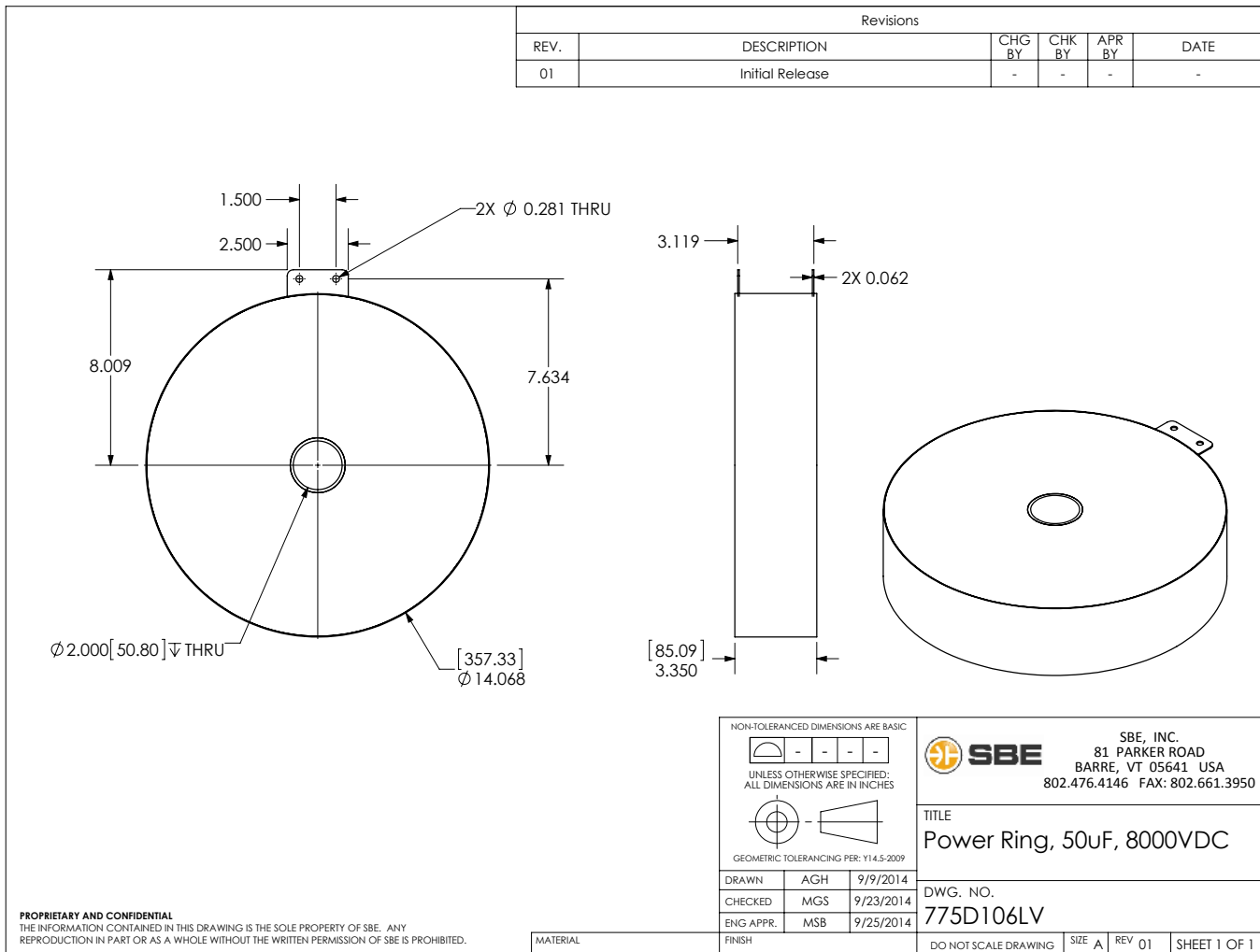
## Mechanical Specifications

**Diameter:** 14.07" (357.4 mm)  
**Height:** 3.35" (85 mm)  
**Core:** Hollow phenolic core with 2.0" I.D. Meets UL-94HB Specs.  
**Terminals:** Tin plated copper strap, 0.062" thick by 2.5" wide.  
**Encapsulation:** Outer tape wrap and white epoxy potting.

**Mechanical Mounting:** If possible mounting of this unit using the core will help to provide stress relief for the terminals.

**Marking:**  
 SBE SBE company identification  
 775D106 SBE "short form" part number  
 50µF ±10% Capacitance value and tolerance  
 8,000Vdc DC voltage rating  
 yyww-lot#-unit Serial number (date code, lot number, unit number)

## Layout Details:



Contact SBE Inc. to discuss your specific requirements.

*SBE reserves the right to amend design data*