



Technical Specification Sheet (Sample design sheet)

Electrical Specifications

(Note: All electrical specifications are for design discussion purposes only, please contact SBE to discuss your specific requirements)

Capacitance/Tolerance:	825 μ F, \pm 10%
DC Voltage Rating:	600 VDC
Test Frequency/ Temperature:	0.1 KHz, +25°C
Dielectric/Construction:	Metallized Polypropylene film. Single section design, non-inductively wound
Dielectric Withstand Voltage:	Unit shall withstand a DC potential of 750 Volts for one minute. Voltage applied and discharged through a limiting resistance of 40 ohms per volt minimum at +25°C
Insulation Resistance:	121 M Ω Min at +25°C
ESR:	100 micro-ohms maximum at 100 KHz, +25°C. Note this value reflects losses in both the winding and the braid based on the current being equally divided at 12 locations around the braid.
ESL:	~ 15 nH based on short circuit ring-out measurement concept. The actual capacitor loop inductance will depend on the application interconnect design. In addition a 4-wire measurement of the bare capacitor section (end spray surface to end spray surface) will also result in a lower value; however this would not indicate a "realistic" inductance as it measures only part of the discharge loop. Integration with a co-planar bus structure can provide significantly lower ESL.
Operating Temperature:	-55°C to +85°C at full DC Voltage
Voltage, Temperature De-rating:	De-rate voltage linearly from 600 VDC to 400 VDC from +85°C to +105°C
Peak Current Rating:	10,000 Amps Maximum
dV/dt:	12.5 volts/ μ sec.

RMS Current Rating: Ripple current ratings are based on the end spray's highest temperature location. As such, only losses in the film are accounted for. Connection and bus losses are unknown, and will reduce the below ratings in that for a given current the end spray temperature will be higher. Ratings are based on a maximum film temperature of ~105°C. Note; there is some allowance built into these numbers to account for heating due to leakage current. Current at higher temperatures can be increased if voltage is reduced. There is also a component built into these ratings to account for braid/end spray heating at the higher currents.

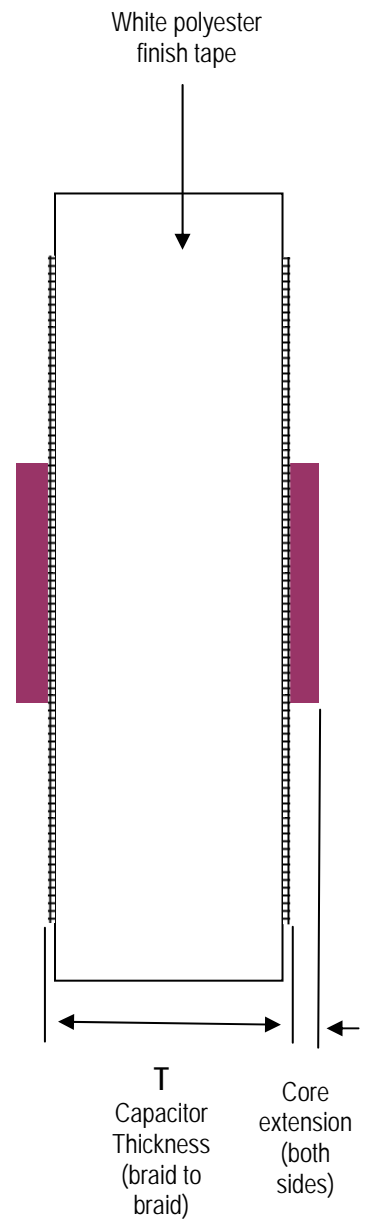
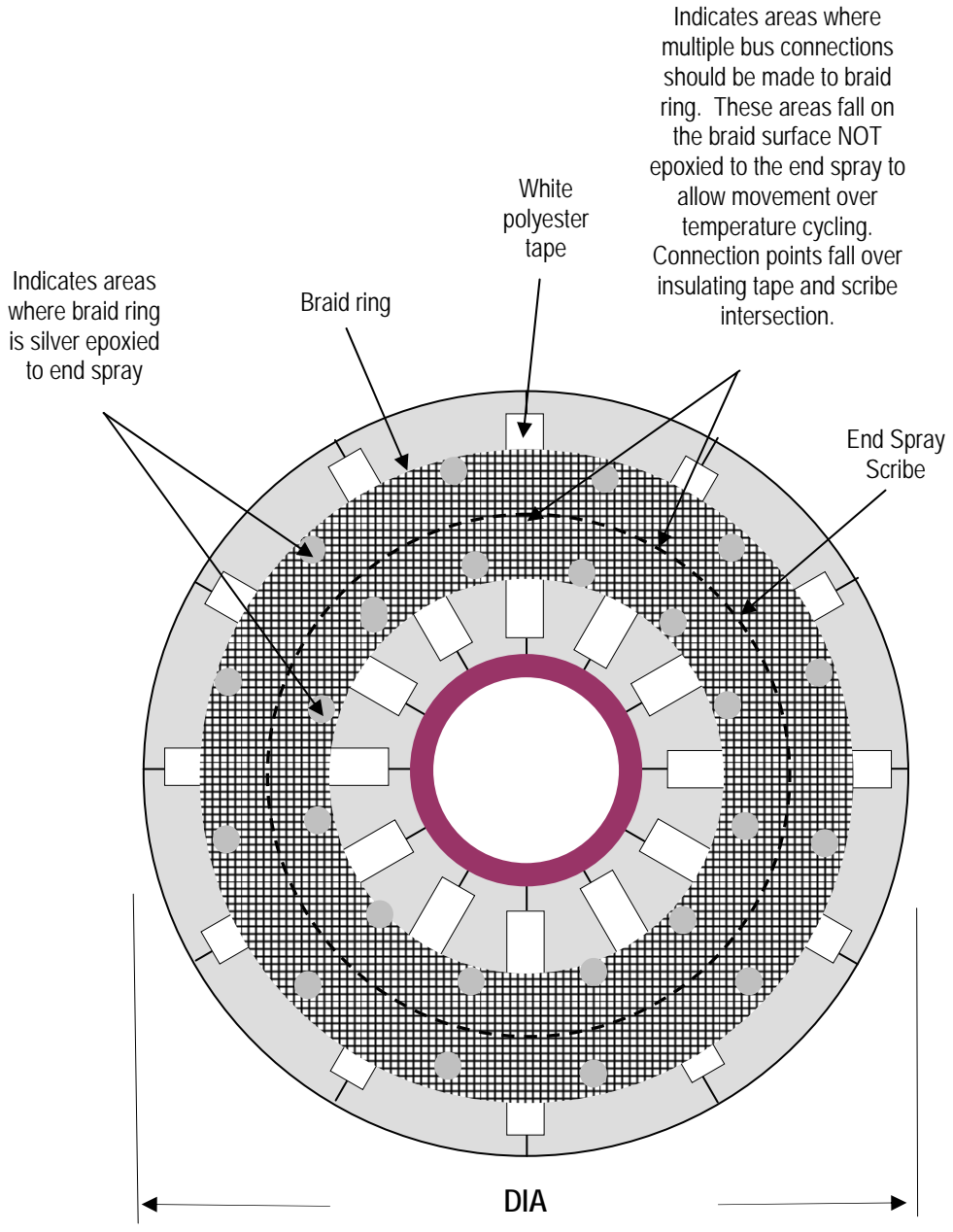
Ripple current performance specifications:

- 400 Amps RMS at 5 KHz, +80°C**
- 350 Amps RMS at 5 KHz, +85°C**
- 290 Amps RMS at 5 KHz, +90°C**
- 200 Amps RMS at 5 KHz, +95°C**
- 100 Amps RMS at 5 KHz, +100°C**

Notes regarding RMS current ratings: To achieve the above RMS current ratings very careful consideration must be paid to the bus/terminal configuration. Please contact SBE to discuss.

Mechanical Specifications

- Diameter (DIA):** 8.0" Max
Thickness (T) 1.28" Nominal (braid surface to braid surface)
- Core:** Hollow GE Ultem™ 1000 (Polyetherimide) with 3.25" Nominal I.D.
Core extension: 0.15" Nominal (both sides)
- Braid Ring Terminals:** Tinned copper braid, 0.025" thick, 6.87" OD, 4.37" ID. Braid ring is attached with conductive silver epoxy on both sides of the capacitor, positioned centered on the unit's end spray surface.
- End Spray:** End spray material is a Zinc and a Tin-Zinc alloy
- Encapsulation:** Outer tape wrap of flame retardant polyester tape (meets UL510 specifications)
- Mechanical Mounting:** It will be important to mount this unit using the core if at all possible to provide stress relief for the terminals/interconnect/bus system that will be attached.
- Marking:**
- | | |
|-------------|--|
| SBE | SBE Company Identification |
| 700Dxxx | Unique SBE Part Number |
| 825 µF ±10% | Capacitance value and tolerance |
| 600 VDC | DC Voltage Rating |
| 0825 | Weekly date code (i.e. 0825 = 25 th week of 2008) |





Sample photo for reference only

Rev. 7/16/08 Automotive, 700D321REF

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