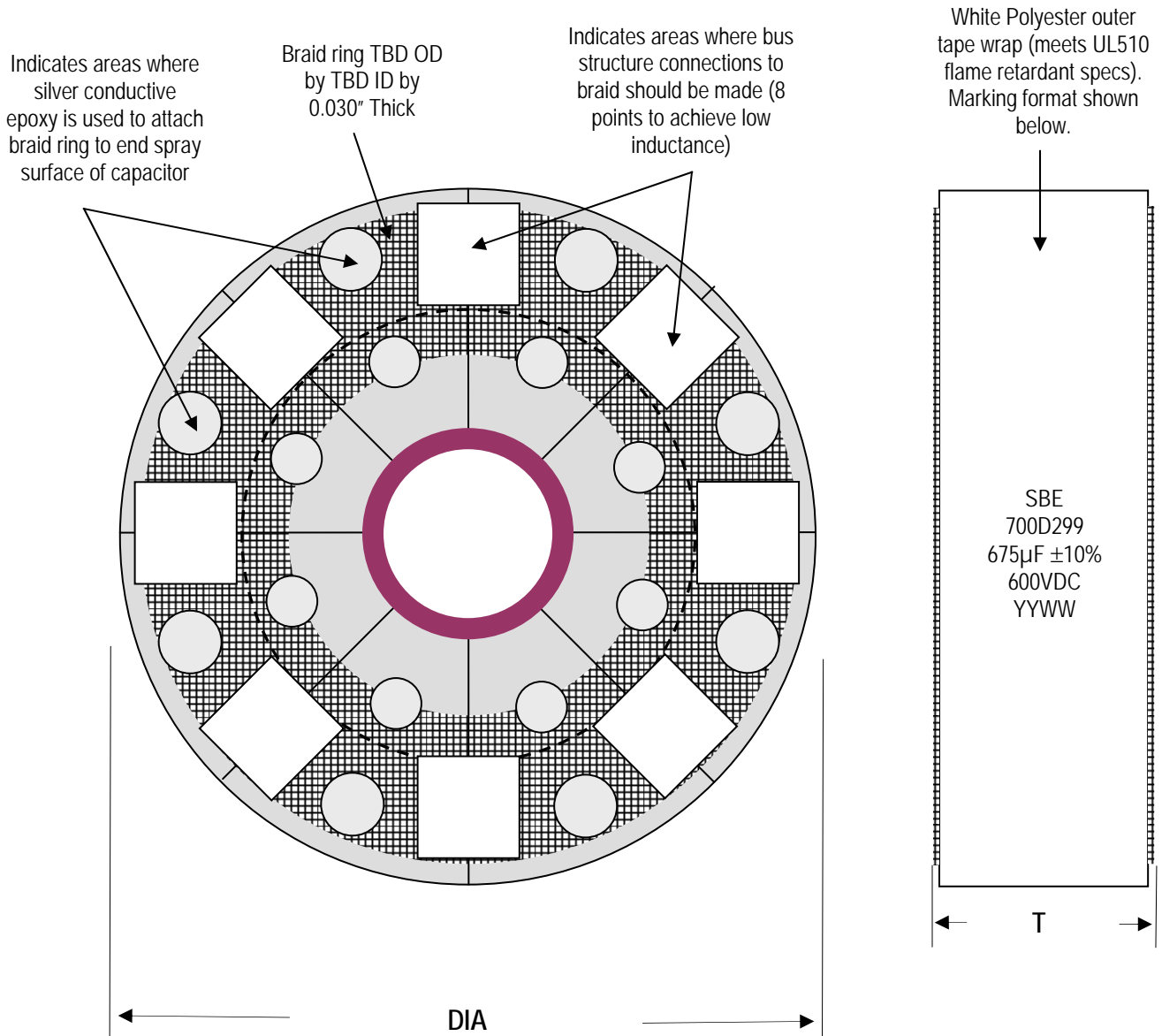




Power Ring Film Capacitor™

SBE Part #: 700D-675µF Example

600 VDC, 675µF



CONCEPT DRAWING ONLY, NOT TO SCALE

Bus structure considerations:

Attachment points should be made near outer circumference to achieve low inductance.

Attachment points should not be made directly over where conductive epoxy attaches braid to end spray.

The areas indicated by the squares above illustrate the connection areas which are offset from where the conductive epoxy attachments of the braid to the end spray are made.

8 connection points to braid ring should be made to achieve low inductance.

SBE can perform assembly of bus structure to Power Ring.

Specifications

Capacitance:	675 μ F
DC Voltage Rating:	600 VDC
Diameter (DIA):	172mm maximum (includes room for terminals around the OD)
Thickness (T)	35mm max (braid surface to braid surface) 33 – 34mm typical
Core:	Hollow phenolic core with 1.5" I.D. Meets UL-94HB specifications
Core extension:	None as shown above.
Terminals:	None
Encapsulation:	None
Braid Ring:	TBD OD/ID Tinned Copper, 0.030" Thick
Dielectric/Construction:	Metallized Polypropylene film, non-inductively wound, single-section design.
Dielectric	
Withstand Voltage:	Units shall withstand a DC potential of 750 Volts for two minutes.
Insulation Resistance:	130 M Ω Min at +25°C 400VDC
ESR @ 100 KHz.:	< 0.2 m Ω
ESL:	~15 nH. Minimal loop inductance. If a 4-wire measurement is made at the terminals (end spray surfaces) it would indicate an ESL of <10 nH. However this measurement may vary slightly and is NOT a realistic indication of what the capacitor's actual resonant frequency will be. The actual capacitor loop inductance will depend on the application interconnect design. We would be happy to discuss this in further detail.
Operating Temperature:	-50°C to + 125°C (Ratings in this document assume 85°C Cooling plate attached to the capacitor).
RMS Current Rating:	200Amps RMS using 12kHz switching frequency, 15°C estimated Trise surface to hot spot and 7.5 Watts nominal electrode dissipation. Maximum 10°C Trise current rating of 160Arms. This may be a future 105°C engine coolant rating pending reliability research on-going at SBE.

This design utilizes a patent pending segmented end spray pattern (the drawing in this document is a representative layout which may change for this particular capacitor). Terminal/interconnect attachment is a critical aspect to achieving maximum reliability of this design. To achieve the greatest performance, this design should be closely integrated with the bus structure. The interconnect is an important part of the total losses.

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