

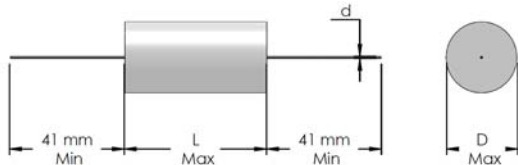
flexiBrute Primary Shunt Capacitor

Introduction

A primary shunt capacitor is used primarily to shunt energy away from the primary power circuit in a high power solid state DRSSTC system in the event of a primary strike. When an arc from the secondary strikes the primary, there is an enormous amount of energy that is injected into the primary coil and ultimately back to the half-bridge or full-bridge switching circuit which is comprised of expensive IGBT modules. The use of these shunt capacitors allows that energy to be safely shunted to ground during those strikes.

Features:

- Cornell Dubilier 942C20P1K-F Capacitor
- Rated 0.1 μ F @ 2kV
- ESR: 5 m Ω
- ESL: 30nH
- dV/dt: 2879 V/us
- Peak current: 432A
- Ripple current: 12.1A @ 100kHz (70°C)
- Operating Temp Range: -55°C to 105°C



Physical Dimensions:

- D = 24.5mm
- L = 46.0mm
- d = 1.2mm

Typical Application

The schematic block diagram below shows how these shunt capacitors can be utilized within a half-bridge IGBT circuit. One capacitor is placed across the power rails of the half-bridge while the other is placed from the output of the half-bridge to chassis or earth ground.

