



# SiliconBrite Technologies Inc.

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SBT3000, Power Line Smart AC Switch Controller IC (*patent-pending*) enables  
Safety, Reliability, and Size-Reduction in Appliances

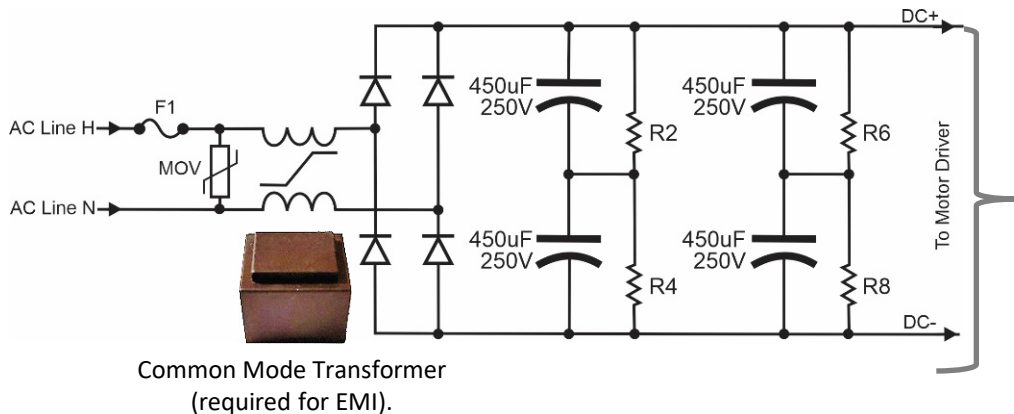
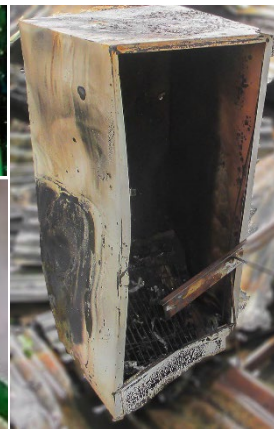


# Example of Traditional Appliance Input Circuit



*High Voltage & Surge related issues cause Appliances to fail*

- Varistors (MOVs) on fire
- Capacitors blow up
- Internal electronics destroyed

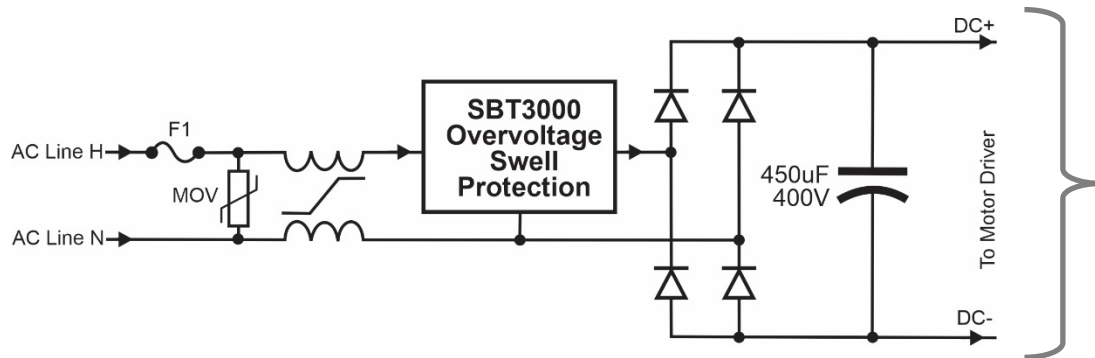


*Actual appliance circuit board uses 4 large capacitors and resistors.*

- The four capacitors, and equalization resistors make the design not optimal and cause the appliance circuit board be larger than necessary.
- A 450uF of capacitance is required by the design. Putting two 450uF capacitors in series effectively gives 225uF, thus two additional capacitors are required in parallel to make up the required 450uF.
- The circuit from the actual appliance circuit board shown to the above right has been simplified in the schematic to the left above. Many components have been not drawn, for simplicity and clarity.

# Example of New Appliance Input Circuit with SBT3000

- Reduces # of capacitors thus Smaller Solution Footprint and Overall Size
  - Increases Safety, Higher System Reliability
  - Lowers System Cost with Simpler Design



- ✓ Reduces fire risks
- ✓ Eliminates capacitor and varistor blowups
- ✓ Protects internal electronics from surges

Four capacitors reduced to one.  
Simpler, smaller, more reliable.

- The SBT3000 protects the Appliance by turning off input voltage, limiting the voltage on the capacitors to 400V. It is easy to change the SBT3000 transistors to whatever overvoltage protection is required (eg: 60V to <4000V).
- The SBT3000 provides autonomous and continuous line monitoring via smart control architecture (patent-pending) providing uninterrupted, long-term power protection and safety assurance for Appliances.
- If a voltage surge occurs, the SBT3000 turns off the power, as soon as the line current goes to zero. When the input voltage is normal, the SBT3000 will turn on again, on the next line voltage zero cross.

# SBT3000 Design-Win at a Global Appliance Company

Original board had Four Capacitors  
With SBT3000, Reduced to One Capacitor



The SBT3000 Protects!



*Portion of actual appliance  
circuit board*

SBT3000 IC

SurgeZAP<sup>®</sup>



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