

The COOLTECH's superior capabilities are the result of several technological advances :

1 Epoxy-free design

The epoxy-free design of the COOLTECH SSR eliminates the stress placed on internal components due to the expansion and contraction of epoxy during normal use. Moreover, this eliminates the possibility of a catastrophic failure as a result of severe stress in the encapsulant during load failure

2 Enhanced substrate quality

The DBC substrate, along with the unique vertical placement of the substrate, allows the SCR die to efficiently transfer heat to the heat sink and into ambient air (40% more efficient than traditional substrate designs). As a result, the SCR die operate at a lower temperature than competitive relays. It also accounts for the COOLTECH's higher I²T and surge-current ratings.

3 Optimum surface area & thermal management

Three innovations promote efficiency :

- Larger SCR die with a lower Vf reduces power dissipation and increases the surface area necessary for heat transfer.
- A reduction of solder joints in the path of load-current improves reliability and reduces overall dissipation.
- An improved thermal interface material reduces voids between the substrate and the heat sink.

