



# DID YOU KNOW? PRE-CHARGE RESISTOR AND BLEED RESISTOR SELECTION

The interest in pre-charge resistors and bleed resistors has increased due to the increasing number of hybrid vehicles (HVs) and electric vehicles (EVs).

The pre-charge resistor minimizes the inrush current and helps to slowly charge the capacitor in the circuit. The bleed resistor safely discharges the inverter capacitors when not in use.

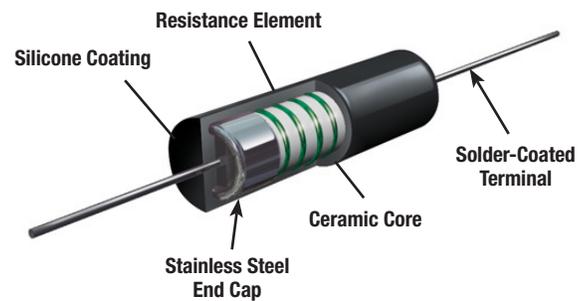
Both of these systems in automotive applications get utilized multiple times a day. Hence, it is extremely important to choose the proper resistor. Wirewound resistors offer the best pulse performance due to their ability to handle large inrush currents. Vishay Dale offers high temperature, silicone-coated axial leaded wirewound resistors and heatsink-mountable wirewound resistors for a wide range of power levels (from 0.4 W to 250 W) rated at 25 °C ambient and in a wide resistance range.

Vishay Dale has a long history of offering reliable resistor solutions. Contact the Vishay team to find the optimal resistor solutions for your applications.

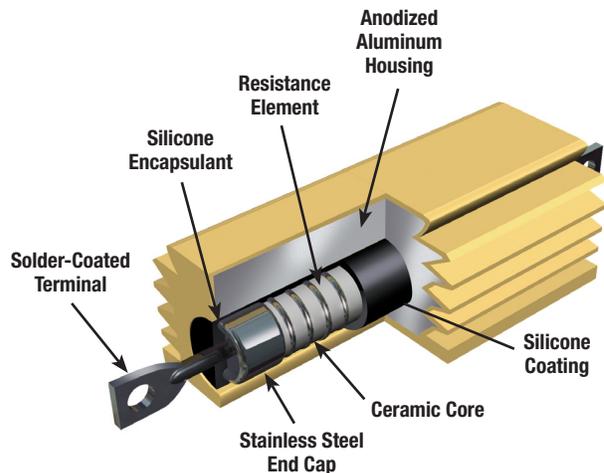
The following information is needed for the engineering team to recommend the best pre-charge or bleed resistor solution:

1. Capacitance value
2. Peak voltage
3. Ambient / operating temperature
4. Fault conditions
5. Resistor value and power rating (if available)
6. Resistor configuration and terminal style
7. Frequency of the charge / discharge operation
8. Allowable resistance shift
9. Dimensional restrictions on the resistor (if any)

More details on the pulse capabilities of wirewound resistors can be found in the document: [“Pulse Handling Capabilities of Vishay Dale Wirewound Resistors.”](#)



**Axial Leaded Resistors**



**Heatsink-Mountable Resistors**