



The DNA of tech.™

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

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

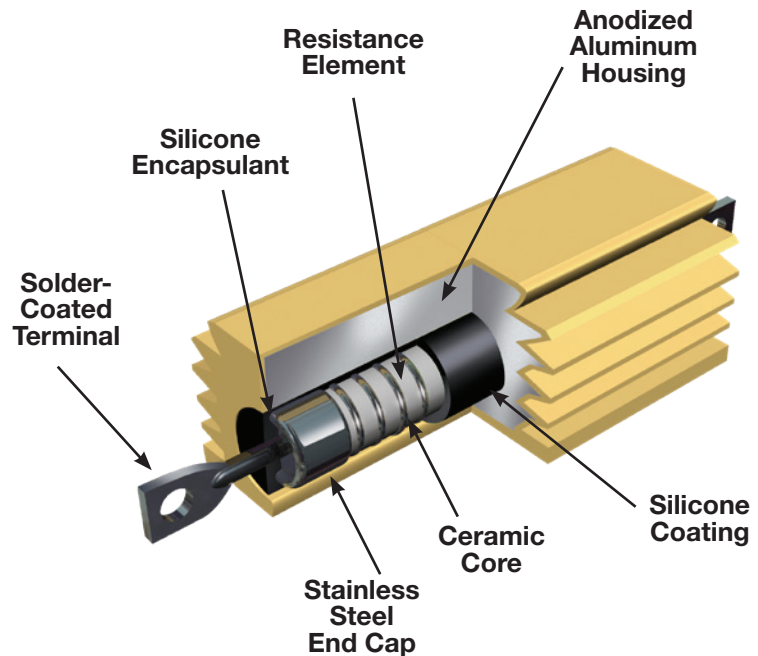
The pre-charge resistor minimizes the inrush current and helps to slowly charge the capacitor in the circuit. The bleed resistor safely discharges the inverter capacitors when not in use.

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. The RHA series is an AEC-Q200 qualified, heatsink-mountable wirewound resistor from Vishay Dale that has many unique advantages. These include good pulse performance, a compact design, and a wide range of power levels (7.5 W to 50 W) rated at a 25 °C ambient temperature and 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. Frequency of the charge / discharge operation
7. Allowable resistance shift
8. Dimensional restrictions on the resistor (if any)



**RHA Heatsink-Mountable,
AEC-Q200 Qualified Resistors**

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