



DID YOU KNOW?

HIGH VOLTAGE THICK FILM CHIP RESISTORS

Most thick film chip resistors have a very low voltage handling capability. A chip resistor with a high voltage handling capability can present the following potential advantages to all new product designs:

1. Reduced component count on the PC board (use one HV resistor instead of five or six resistors in series)
2. Increased design flexibility (a PC board layout with one or two components offers more flexibility than multiple components)
3. Reduced overall PC board weight and overall size of the finished product
4. Reduced assembly (placement) costs
5. Improved board-level reliability due to fewer solder joints

Vishay Dale offers AEC-Q200 qualified high voltage molded chip dividers (CDMM series) with compliant terminations and high voltage chip resistors ([CRMA](#) series) for automotive / high reliability applications. In addition, two industrial high voltage thick film chip resistor families (CRHV and CRMV) are also offered in multiple case sizes and terminal configurations to meet various customer needs. The AEC-Q200 qualified CDMM has a maximum continuous operating voltage up to 1500 V and the CRMA series (also AEC-Q200 qualified) offers up to 1415 V of continuous voltage handling capability; there is also an industrial version: the [CRMV](#) series.

The [CRHV](#) series offers up to 3000 V of continuous voltage handling capability.

Some highlights include:

1. AEC-Q200 qualified molded chip divider (CDMM) and thick film (CRMA) series
2. Multiple case sizes
3. Standard tin / lead and lead (pb)-free terminations for easy usage
4. Also offered in epoxy-bondable and wire-bondable-terminations

More details on the performance of these high voltage resistors can be found in the infographic "[High Voltage Chip Resistors](#)." High voltage thick film chip resistors are frequently used in applications that involve high voltages:

- Voltage monitoring
- Battery monitoring
- Over-voltage protection
- High voltage power supplies

VOLTAGE HANDLING

