



“U” and “V” Characteristics of Wirewound Resistors

Standard silicone-coated, wirewound resistors (the Riedon UT-series resistors) are rated under two load/power characteristics to allow more flexibility to meet user’s application requirements.

U-Characteristic - The standard maximum power ratings are called “U” Characteristic ratings and defined the maximum power to be applied to the resistor to assure that the tolerance of the part would be maintained under normal usage for a period of one year. Drift in a wirewound resistor is a function of temperature, and operating a resistor within this U Characteristic power level limits the maximum operating temperature of the resistor (275°C) within a range which assures the tolerance spec.

V-Characteristic – A second, higher power rating is also assigned to a resistor which allows the same resistor (same physical size) to be operated at a higher power level and higher temperature range (up to 350°C), but which also required that the environmental performance tolerances of the part be increased to reflect the higher operating temperatures. This V-characteristic power level is little-used, but if a customer requires higher power capability in the same size package and is willing to accept degraded environmental performance specifications, the V-characteristic part offers a solution.

The Riedon UB-series of wirewound resistors is a special design that employs improved wire winding to allow higher operating temperatures as a standard feature of the design. In 2008, after specifying the U and V-characteristic options for this family of resistors for many years, Riedon decided to remove reference to these different power levels from its standard UB product line and replace them with the single, higher-power level supported by the UB design. The removal was prompted by the larger and less predictable shifts in resistance value (degradation in tolerance) that resulted from operating these already-higher power level parts at the extreme V-characteristic power levels.

Riedon still maintains the dual power ratings on its standard UT-series power resistor product line as shown in our UT-series data sheet.