

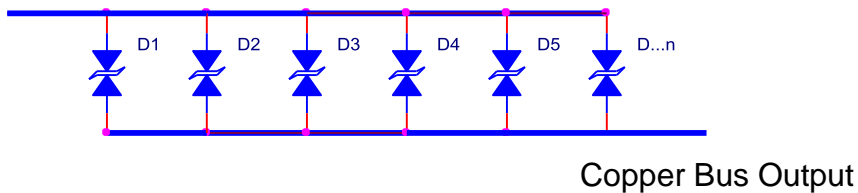
What to Consider and How to Configure When Using TVS Diodes in Parallel to Increase Surge Rating or Reduce Voltage

To accommodate surge current ratings greater than those capable from a single TVS device, one can use multiple TVS diodes in parallel.

The sum of the surge current of TVS diodes in parallel should always be greater than the required surge current, since the multiple devices will not share current equally. A rule to apply may be 10 to 20 % greater than the required current

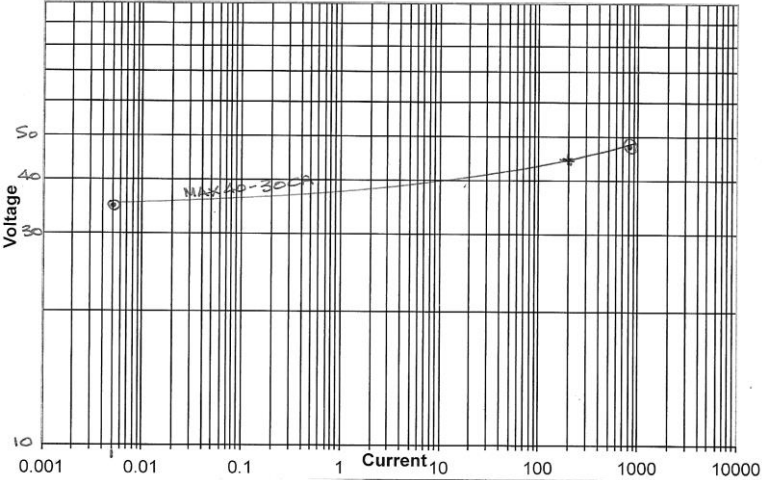
The configuration should be as shown below, in at one side and out the other. This is to create an equal impedance to all devices, so the current is distributed equally and will not be carried by the first device in line.

Copper Bus Input



Example:

A 10/1000 surge rating of 45v at 1000A is required. So, the device chosen is a MAX40-30CA and as shown in the plot. At 200A the voltage will be 45v, so this requires 5 devices in parallel, but because of current sharing an additional unit is added. So, for this application, 6 parallel components are needed, and the input/output configuration must be used.



The result is at 1000A the voltage will be less than 45v which is required.