CABLE INNOVATIONS
CATV SURGE PROTECTION

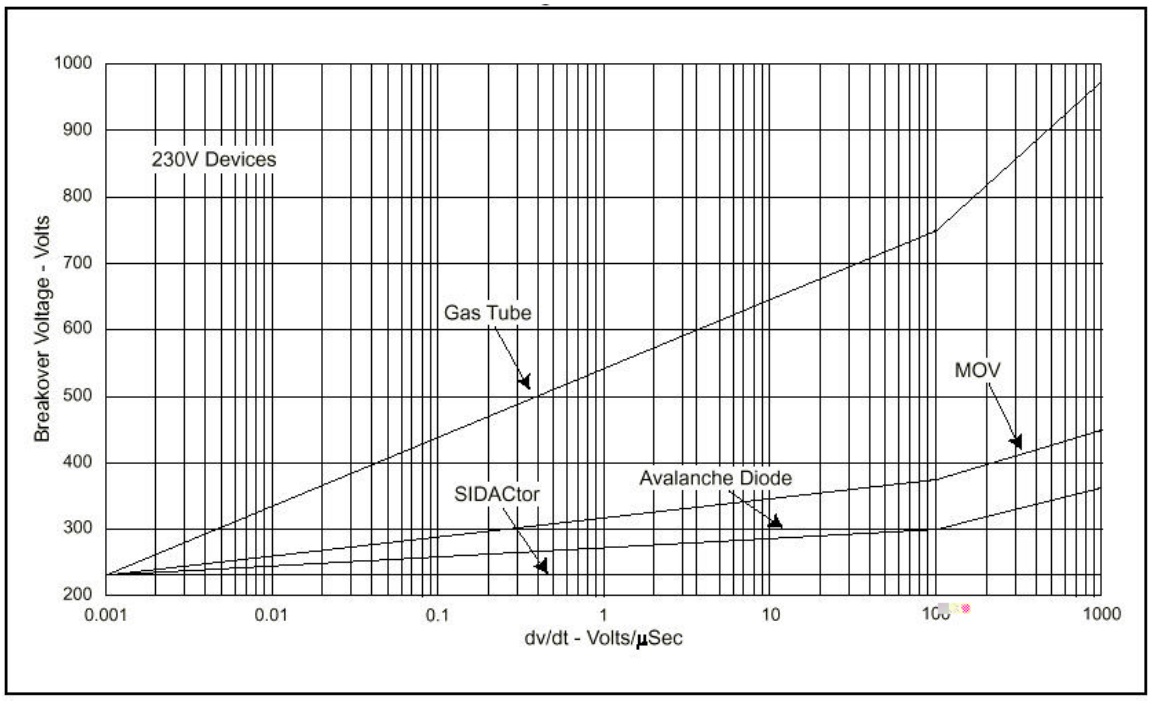
Voltage let thru comparison Sidactor vs. Gas Tube

When overvoltages pass into a surge protector, the protecting device must activate at a certain voltage called the breakover voltage. The breakover voltage is the voltage at which the device will breakover and clamp the overvoltage to ground.

Voltage let thru is the amount of voltage that passes through a device before the breakover voltage is reached. For instance, if a device has a breakover voltage rating of 500V, then the let thru voltage into the unit is also 500V before the device activates. The greater the let thru voltage the greater the risk to sensitive electronics and the greater the potential for damage to your and the subscribers' equipment before the protecting device activates.

Let thru voltage is affected by the rise time of the surge, in other words how fast the surge builds to its full strength.

The following chart illustrates breakover voltage comparisons between gas tubes, MOV's, TVS diodes, and Sidactors in relation to increasing rise times. The x-axis represents the rise in voltage with respect to time and the y-axis represents the maximum breakover level across each device.



From viewing the chart, the Sidactor's breakover voltage level was unchanged over varying rise times. The gas tube had a substantial increase in breakover performance as the rise time increased. The sub par performance of the gas tube over increased rise times would allow significant amounts of let thru voltage into the protected equipment, whereas a Sidactor maintains a consistent performance over increasing rise times.

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