

Fundamentals of Avalanche Sinterglass Diodes

Avalanche Sinterglass diodes are primarily used for conducting in one direction and blocking in the other.

Within avalanche Sinterglass diodes there are several groups depending on the reverse recovery characteristic (reverse recovery time t_{rr}):

- Standard avalanche Sinterglass diodes with $t_{rr} > 500$ ns (e.g. BYT51, BYW56, BYW86)
- Fast avalanche Sinterglass diodes with 100 ns $< t_{rr} < 500$ ns (e.g. BYT52, BYW36, BYW76)
- Ultra-fast avalanche Sinterglass diodes with $t_{rr} < 100$ ns (e.g. BYV26, BYV27, BYV28, SF5408)

Avalanche Sinterglass diodes are of p-n junction technology with different processes to optimize the characteristics for different applications. They are placed in different packages, leaded like the avalanche Sinterglass (SOD-57, SOD-64) which fulfill different power requirements.

Because of their predominant rectifying qualities, avalanche Sinterglass diodes are primarily used for power or signal conditioning in a variety of applications. This can range from high power output diode applications (e.g. power plants, railways,...) to low power switching diode requirements (e.g. mobile phone chargers, energy saving lamps,...). They are also used in several other specialized ways like clamping networks for SMPs (e.g. BYT52), damper and modulator

diodes for the deflection circuits in CRTs (e.g. BY228), freewheeling diodes for inductive loads etc.

The fig. 1. shows the basic rectifier characteristics with the two regions, the forward conducting region, in which the forward current I_F is flowing and the reverse blocking region, in which the reverse leakage current I_R is flowing.

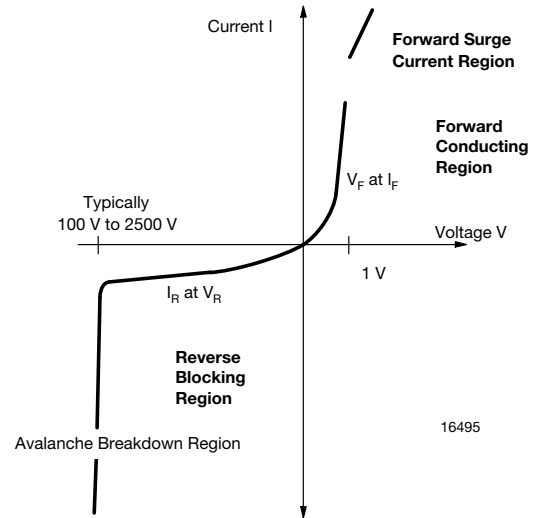


Fig. 1 - Basic Rectifier Characteristics