

Testing Schottky Diode



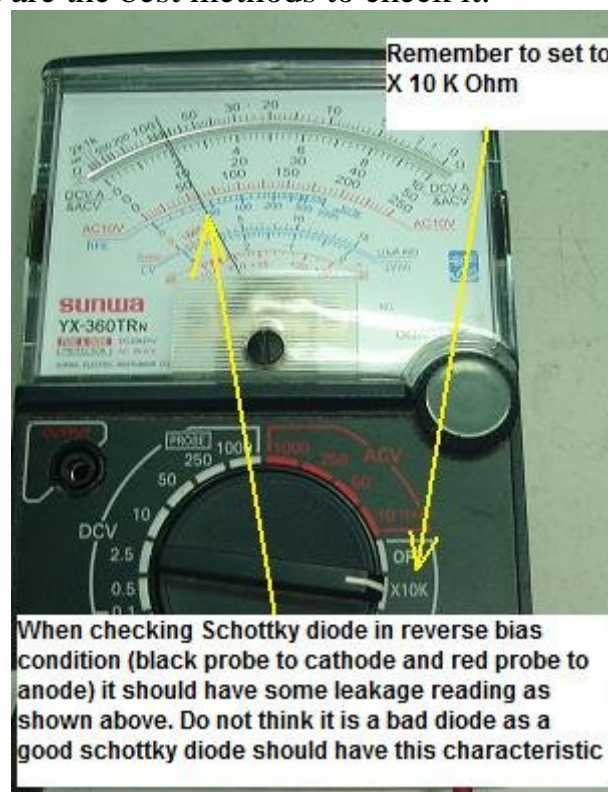
Schottky Diodes

The schottky diode or schottky barrier rectifier is designed for uses in high efficiency rectification essential for **applications** like switched mode power supply (SMPS) circuit, switching regulator and etc. If you observe any electronic schematic diagrams and layout, schottky rectifier symbol (“D”) looks exactly the same as a normal diode.

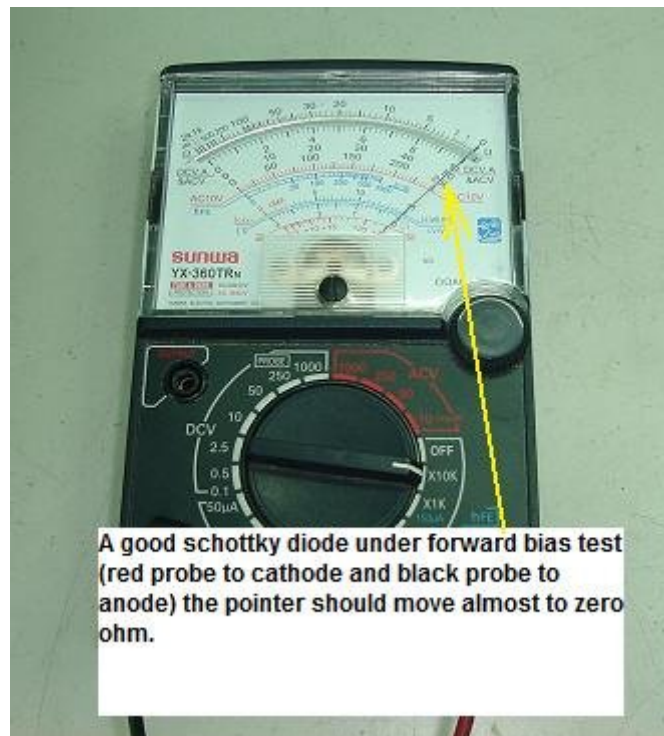
Even the outlook, shape and designed just like a normal diode. The major difference between a normal diode and schottky barrier diode is the part

number. Because of the same outlook, many electronic repairers think that measuring schottky diodes is just the way as **testing** a normal diode. If you use the normal diode checking method to test on schottky diode then chances are high that you will not solve the problem.

In this book I will show you the basic accurate method to test schottky diode so that you will not be confused anymore. Using the semiconductor data book and with the help of search engines, you will easily find out whether the diode you are checking is schottky, normal diode, ultra fast or even damper diode. In electronic repair, you should not guess what component it is, just locate the data and confirm it so that you are 100% sure what are the best methods to check it.



Once you have confirmed that the diode you are going to test is a schottky diode then you have to use the right way to measure it. Using analogue multimeter, set it to times 10k ohm range, put the red probe to the cathode and the black probe to the anode. You should see the pointer moved to full scale. Now, reverse the probe and you will get some leakage reading. In other words, the pointer will move up a little bit. This is the good characteristic of a schottky diode when you get this type of reading. However if you test a normal diode and you discovered that it has two readings then the diode is said to be defect and need replacement.



A shorted schottky barriers diode will show two full scale readings registered at the meter of the panel. Assuming if an electronic repairer don't know how to test a schottky diode, he or she may think that the diode registered some leakage reading and replace it. Diode schottky is not easy to get from local electronic distributor.

Looking for schottky diode replacement will take you time and it is not necessary if you know how to check it. The electronic repairer might just simply replace a 'normal diode' as replacement and hope that it will work. Well, the equipment will still not work because you have replaced a working diode (schottky diode) with another good normal diode! The actual fault is still out there and not the schottky diode.

Sometimes replacing a schottky with a normal diode may cause the equipment to be unstable especially in the sensitive circuit. The best is to replace with original part number or a specification that is higher voltage and current than or same spec with the original diode. Typical part numbers for a schottky diode is 1N5818, 1N5819, 1N5820, STPR10 and SB530. Refer to your favourite semiconductor replacement book for datasheet type now and find out the specification of these part numbers. If you have one, try testing it with your analogue meter and you will be surprised that there are two readings but not shorted reading.