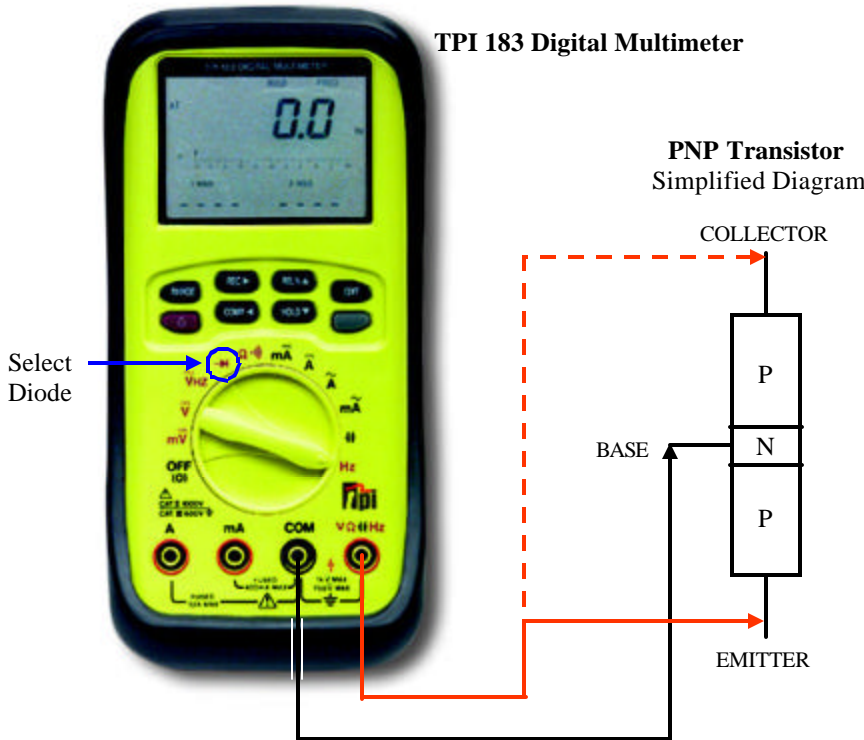
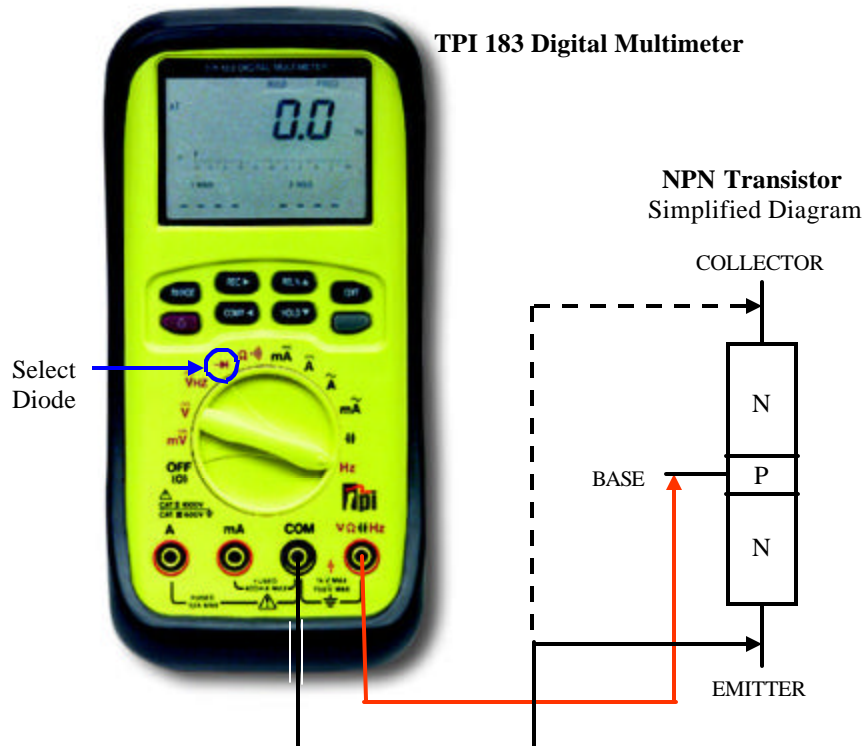


An ohmmeter can be used to test the base-to-emitter PN junction and the base-to-collector PN junction of a bipolar junction transistor in the same way that a diode is tested. You can also identify the polarity (NPN or PNP) of an unknown device using this test. In order to do this you will need to be able to identify the emitter, base, and collector leads of the transistor. Refer to a semiconductor data reference manual if you are not sure of the lead identification. Note: While this test can be used to determine that the junctions are functional and that the transistor is not open or shorted, it will not convey any information about the common emitter current gain (amplification factor) of the device. A special transistor tester is required to measure this parameter known as the Hfe or Beta .



- PNP Test Procedure**
- Connect the meter leads with the polarity as shown and verify that the base-to-emitter and base-to-collector junctions read as a forward biased diode: 0.5 to 0.8 VDC.
 - Reverse the meter connections to the transistor and verify that both PN junctions do not conduct. Meter should indicate an open circuit. (Display = OUCH or OL.)
 - Finally read the resistance from emitter to collector and verify an open circuit reading in both directions. (Note: A short can exist from emitter to collector even if the individual PN junctions test properly.)



- NPN Test Procedure**
- Connect the meter leads with the polarity as shown and verify that the base-to-emitter and base-to-collector junctions read as a forward biased diode: 0.5 to 0.8 VDC.
 - Reverse the meter connections to the transistor and verify that both PN junctions do not conduct. Meter should indicate an open circuit. (Display = OUCH or OL.)
 - Finally read the resistance from emitter to collector and verify an open circuit reading in both directions. (Note: A short can exist from emitter to collector even if the individual PN junctions test properly.)