

JFET matching Jig

assembly

If you have the kit , you have everything you need to start working.

There are

- sockets for through hole JFETs(6) ,
- jumper(2) sockets,
- sockets for through hole resistors for measuring I'd,
- sockets for LED
- Test points - red and black
- a switch to change between Id and Vp measurements.
- three resistors 100R, 1Meg, 3.65K ohm
- LED
- Power input connector for battery

Start assembling with smallest components first. The smallest ones in the kit are 6 jfet mounting pins.They are together in one bag. place and solder one by one after applying firm pressure on the other side to level them even. LED mounting sockets are also small and need careful handling.Next will be resistor mounting sockets. Next in turn are 3 resistors. Please check with a multimeter before soldering and make sure you are placing 100R in its place.

when you are mounting the jumper sockets please make sure they are positioned in line with each other and vertically. the mounting hole turned out slightly bigger than it need to, and hence may mal-align, if you are using the jumper provided with the kit.Next mount and solder test points in their respective places.

Soldering Power input connector needs attention, make sure orienting the wire opening to the left and positioned properly in holes before soldering.

The switch is unique and fits in only one direction (just follow the bigger holes in mounting switch).

cut short the LED leads. The square pad is the Kathode and round pad is the anode, when testing N Jfets.Just flip the direction for P channel Jfets.

Other than kit, following are needed for measuring JFETs

9V battery

Multimeter

Alligator clips for connecting multimeter

A battery connector

A cloth hanging clip for holding SMD Jfets in place

a tweezer/ forceps

Measuring procedure for N channel jfets

The board has marking for battery polarity for both type of Jfets. wire the battery following the pattern shown on the board with right polarity for each JFEt. The Led will turn on indicating power on state. Keep the switch position in the middle.Connect multimeter positive and negative probes using alligator clips to PCB test point and set to measure voltage in Volts to the maximum precision your's allow to measure.

Carefully place SMD JFEt on the pad making sure the pins are making contact on their coreresponding pads. Use the cloth clip to hold JFEt in position. it is impossible to do the positioning for SMD jfets without a good quality curved forceps.

For measuring I_{dss} use the jumper provided, to close the loop (on PCB marked as Short). if you are measuring the I_d (drain source current for a given resistor leave the short position open, but mount the required resistor in to the socket).

Flip the switch to $I_{dss}/ I'd$ position. I_d is the value you are seeing in Volts divided by your exact resistance (100.7ohm in my case).it is not important in matching process and you can simply divide the volts by 100 to get mA I_{dss} value.

Flipping the switch to other extreme will get you the pinch voltage(V_p).

Measuring P channel Jfets

everything except battery connection is the same for P Jfets. Just revers battery polarity as shown on the board. Also don't forget to reverse the LED if you want power indicator light to be turned on. everything else remains the same

Please allow upto 30S to a minute before measurements from Jfets for thermal settling time.

For through-hole Jfets please follow the same procedure

And enjoy Matching them.