Testing Those "Bulk Pak/Questionable/Unmarked" Zeners.

by B.W.

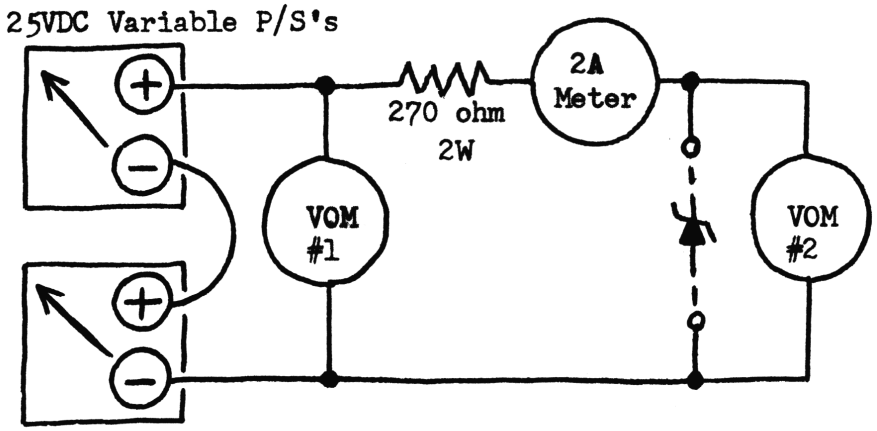
A lot of different parts companies offer bargains at times on Zeners (50/$1), etc.

BUT, most are unmarked and questionable, and reject for Q.C. purposes. However can be used if tested and remarked....

The test layout below is one I use for checking out Zeners. I do suggest that you re-test all "Bargain" zeners. Not only for correct voltage; but current stability; or those bargains might turn out to really cost you. $$$.

If any circuit is going to "pull" over 1 amp, make sure that diode is double-checked for 25% more current over spec.

I use two variable 25VDC P/S's hooked up in series, 2A ammeter, and 2 VOM's. Usually can go thru about 40-50 zeners in an hour, on a preliminary checkout. NOTE: Prior to checking any zeners use a VOM, as many are mis-marked!



Instructions:

1. Both P/S's to minimum or 0VDC.
2. VOM #1 is used to monitor input voltage - must be a minimum of 25% more than VOM #2's reading. VOM #2 will read the regulated voltage controlled by the Zener in test.
3. Install zener in circuit, and apply voltage slowly.

Test-Zeners (Cont.)...

4. Adjust till the voltage stops on VOM #2.

5. Read ammeter current, if below 250ma - increase voltage input until a minimum of 250ma is achieved.

6. Check voltage stability of zener on VOM #2.

7. Remark or label the Zener if different than marked, after test.

NOTE: Resistor and Ammeter will have to be changed if going to check higher current rated parts.

Have been using this method of checking Zeners for years and had no problems. Just use some caution, always use a higher current zener than specification calls for.

Superstar 120FM, Tune-Up/"Beep Sw" Mod.

by D.G.

Quote: "Looks like a Cadillac and about the same comparison as the Jackson for SSB!"

The manual that comes with unit is for the Superstar 120, not the 120FM. Circuitry changes are: PC864AA FM board (has Roger Beep, and Relay switching circuits on it); Xtals are now - X2-14.910, X3-15.360, X4-15.810. Final is 2SC1944 (cross to ECG-236), change the thick White insulator.

Out-of-box operation was 4/8W in Lo/Hi; tuned up to 6/12W; but backed it off to 5/10W. Good forward swing, about 90% modulation.

The correct Fo ranges are: Low - 26.515-26.955MHz
Mid - 26.965-27.405MHz
Hi - 27.415-27.855MHz

"Beep"/Tone Sw. Mod:

1. Trace White wire from VR205 (Mic Gain) to PCB etch. Should also be a Blue wire there going to FM board.
2. Remove the Blue wire from PCB (clean out hole).
3. Resolder Blue wire to un-used side of TONE sw. - center terminal.
4. Solder a new wire from top of same side to the hole cleaned out on the PCB where Blue wire was originally.
5. Switch down - no Beep, Switch up - BEEEEEP....

Special Note on this unit - If you can find Good Luck, is going faster than the Jackson! (Still need schematic, correct one for our files, and also to print.)