FEC200 Diode Tester

The FEC200 is an automatic computer controlled diode and rectifier tester. It is controlled by a standard PC-compatible computer running FreeDOS. The testing software is very powerful, yet the easiest to use.

Four multiplex stations are built in. There are no expensive external multiplexers to buy, and the readings on all four stations are identical.

Several types of tests have been added that are not available on the older generation testers you may be using. For example THERMAL RESPONSE is built-in. Several tests are included to test for SHARP AND STABLE.

These testers are equally at home doing very high speed production sorting or accurate QC or HI-REL testing with data-logging and statistics. Reports for statistical process control (SPC) are very easy to produce.

These testers use highly reliable hardware modules that have been proven in the field for more than ten years. They are thoroughly documented and very easy to service.

We use a standard PC and printer.

- *Easy to Program*
- *Accurate*
- *Reliable*
- *Fast*
- *Includes Thermal Response*
- *1KHZ Zener Impedance*
- *Data Logging*
- *SPC*
- *Fully Documented*
- *Modular, Easy, Service*
- *Easy Interface to Most Handlers*
- *Up to 75 Tests Per Program*
- *Up to 16 Sorts*
- *40 amp VF Testing*
- *2000V IR Testing*

FEC200 Tester Detail Page

The FEC200 tests the three fundamental "DC" parameters of diodes and rectifiers as well as a host of special tests. The three fundamentals are VF, IR, and VBR (VZ).

VF is measured with forcing currents up to 40A. The default pulse width is 300µs but the user may program other pulse widths in 1ms increments up to 30,000ms. This is subject to some derating at higher currents.

IR may be measured with forcing voltages up to 2KV. IR values up to 100mA are measured at the low voltage end of the range and down to the low nA at any voltage.

IR may be measured at specific programmable voltages such as 500V or at a programmable percentage of the measured VBR.

VBR/VZ is measured with up to 20W of test power up to 500V and up to 10mA above 500V derated to 1mA at 2KV. Some of the most important special tests are listed below with brief explanations.

DELVZ measures the difference in VBR between two different test currents. This is a measure of the sharpness of the "knee" or breakdown region of the device.

DRIFT measures the difference in VBR between the current VBR and another measured earlier in the test sequence at the same current. This helps to find unstable or drifting devices.

THETA and DVF are Thermal Response tests intended to detect diodes with imperfect solder bonds (a significant and otherwise invisible cause of early device failure).

SURGE applies an 8.3ms pulse of Forward current to the device with a half sine pulse shape and a peak current up to 40A. The VF is measured at the time of the peak current. This is intended to stress the device but the current may be too small for large rectifiers. We have other testers that do this test up to 1200A peak.

The above is an abbreviated list of some of the more important tests that would be used when testing rectifiers. You can write test programs with up to 75 of these and other tests and sort the parts into as many as 16 classifications based on the results.

The readings may be viewed on the screen, printed, or recorded to disk files or all three of these at once if desired.

The MAXX testing software provided with the tester is very powerful and easy to use. Test programs either simple or very elaborate may be programmed with ease.

Other software packaged with the tester can produce very useful reports based on the readings recorded in disk files.

The tester can be used with manual test stations or connected to as many as four automatic device handlers. The four stations can run completely different test programs independently.