

Rectifier diodes as varicaps (varactors)

Written by Hans Summers

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These measurements followed [Low Voltage Diodes as Varicaps](#) experiment. In this case I concentrated on rectifiers as

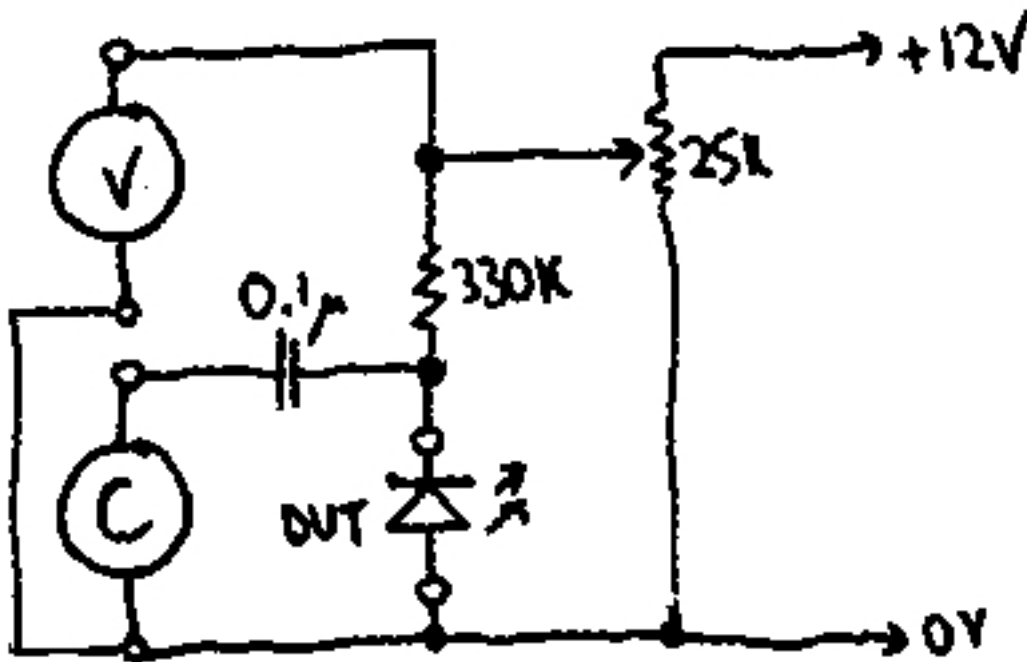
{gallery}varicaps/1cmeter{/gallery}

For this experiment I used the [AADE L/C Meter kit](#) pictured above right. The simple test circuit diagram of the set-up is shown below. DUT (Device Under Test) is the LED being evaluated.

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The measurements were performed for comparative purposes on the following types of diodes:

- 8 Rectifier diodes,
- 2 Small signal switching diodes,
- 1 Actual real and proper varicap (varactor) diode,
- 1 5mm Red LED for comparison with the [LED measurements](#) .

Results

The following table lists the minimum, maximum, and ratio of max to min capacitance of all 11 diodes in this test. Note that the 1N4148 doesn't show any worthwhile capacitance, which is expected and good, since it's supposed to be a high speed switching diode.

The graphs below shows all of the measurements made. I've shown two different scales, so that the much larger capacitance of the large rectifiers doesn't swamp the smaller ones.

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{gallery}varicapdiode/results{/gallery}

Conclusions

I still like the gentler and slightly more linear curve of the proper MV2115 varicap and the 5mm red LED. For cheapness, general availability, etc etc etc., 5mm red LED's STILL get my vote!

Spreadsheet

A spreadsheet containing ALL measurements and graphs is [available by CLICKING HERE](#) .