

Measurement of zener voltage above 4 Volt

If the serial output of text is not required, the Pin PC3 of the ATmega can be used as analog input for measuring a external voltage. The voltage can be up to 50V with the optional 10:1 resistor divider and can be used for measuring the breakdown voltage of a zener diode. A current limiting power supply with up to 50V can be switched on with low signal at PD7 pin of the ATmega to deliver current for testing the break down voltage of a zener diode. Figure 2.3 shows a suggestion for this expansion. The tester shows the external voltage as long as you hold the key pressed. About 40mA more battery current is used by this expansion during key pressing.

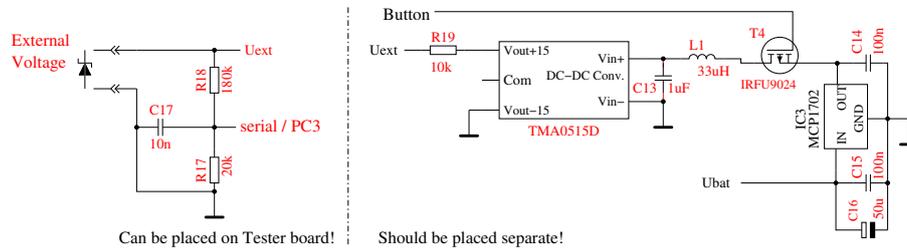


Figure 2.3. Expansion for measuring of break down voltage of Zener diodes

The 10:1 voltage divider can be used with the optional dialog part for the ATmega328 without the activated DC-DC converter for the zener diode measurement. Without the pressed key the voltage converter is not powered. For that the external voltage (for example battery voltage) can be measured at the zener diode port. You can only measure positiv DC voltages up to 50V. You have also to respect the correct polarity.