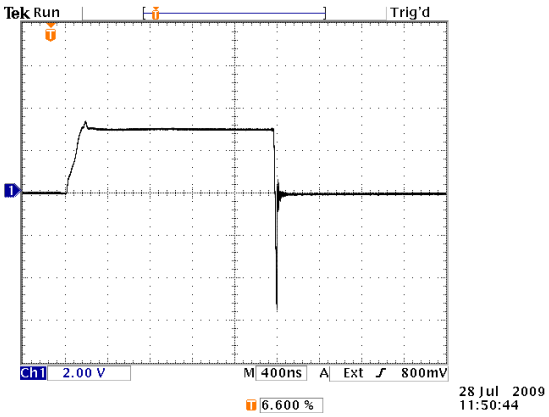
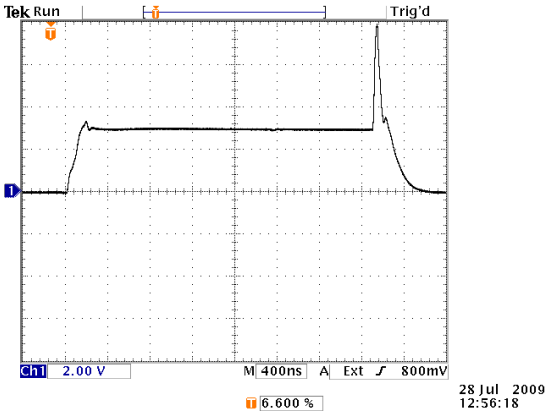
AVR-CD1-B-AANB-SQMELF S/N 12180 - SUGGESTED TESTS

DUT = Microsemi 1N6628
PRF = 100 Hz
AMP1 = +3A
AMP2 = -80V
SL2 = 200 A/us

A normal output waveform should look like this:



If, for some reason, the high voltage negative DC power supply (normally -80V) was not operating correctly, you would see this instead:



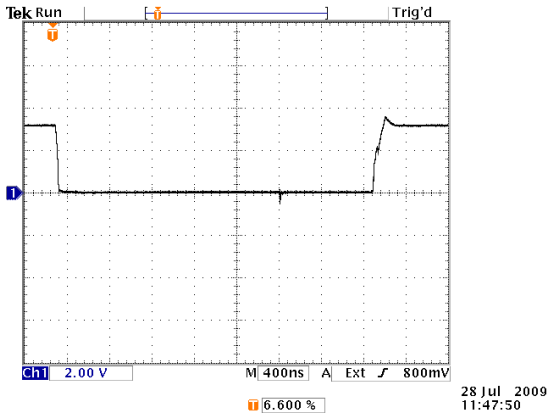
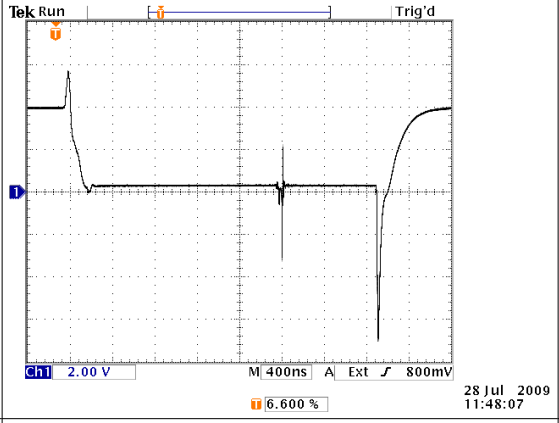
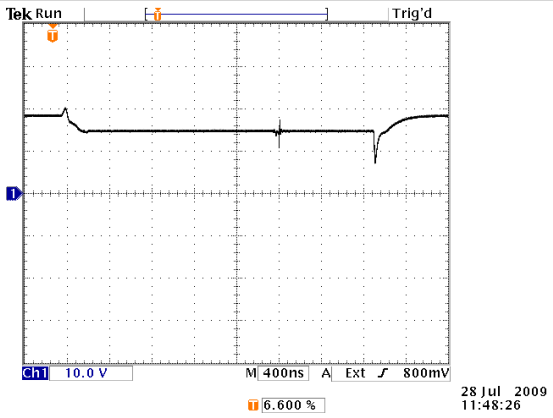
This sounds like what you are observing. To diagnose this further:

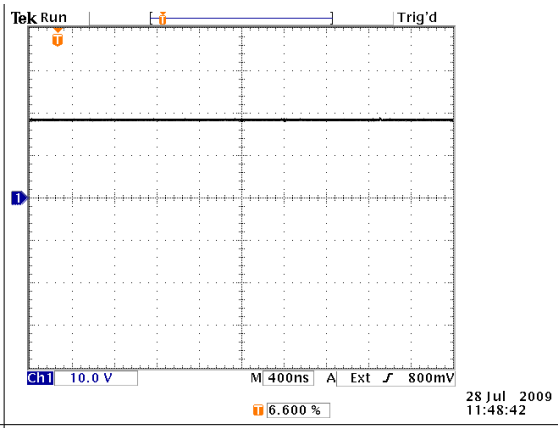
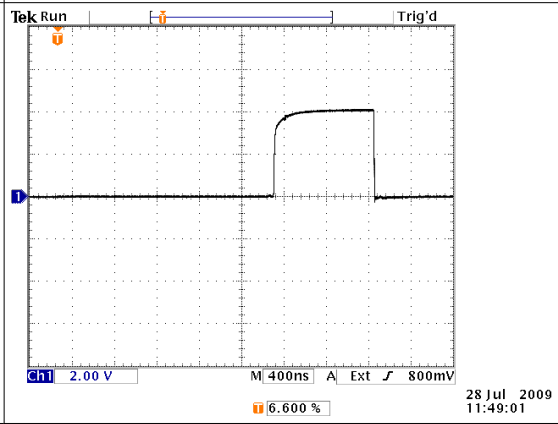
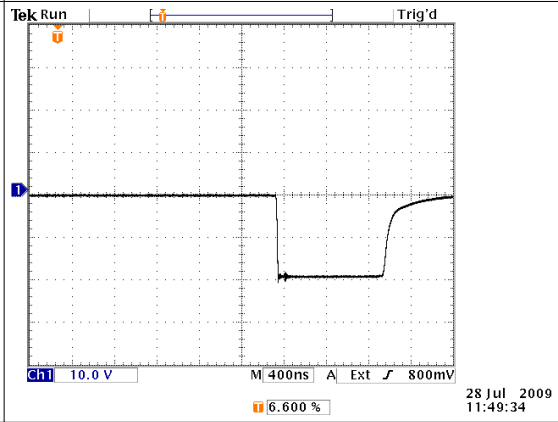
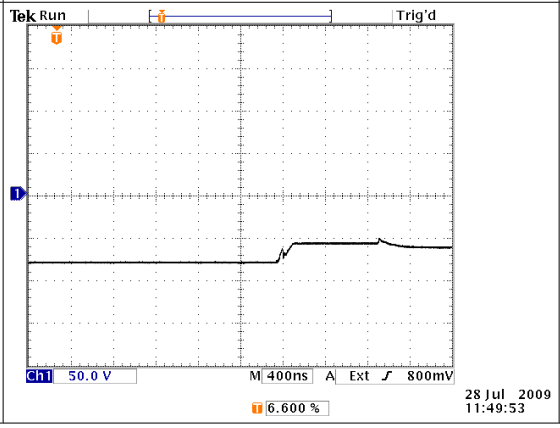
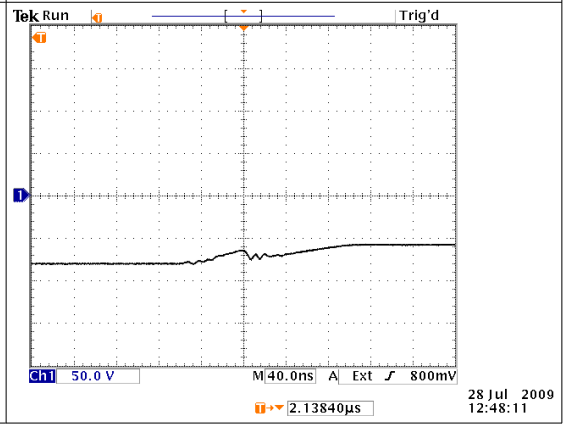
1. Turn off the AVR-CD1-B.
2. Remove the 0.25A DC fuse on the rear panel. Check it. It may be blown. If so, replace it with a 0.5A time-delay fuse. If that does not fix restore the instrument to normal operation, continue to step 3.
3. Disconnect the 25-pin control cable from the rear panel of the mainframe.
4. Remove the 4 four screws on the top cover. Slide the cover towards the rear, until it is fully removed.
5. Locate the small “208A.2” PCB mounted on the right side panel, above the largest control board. Use a test clip to temporarily jumper together the exposed lead of R33 to the exposed lead of R35. This will disable the lid-closed check.
6. Locate the “168B” PCB, near the center of the rear panel. Locate the green 3.3kΩ resistor on the right edge of the PCB. Clip the voltmeter across this resistor. The end of the resistor closest to the front panel is grounded.

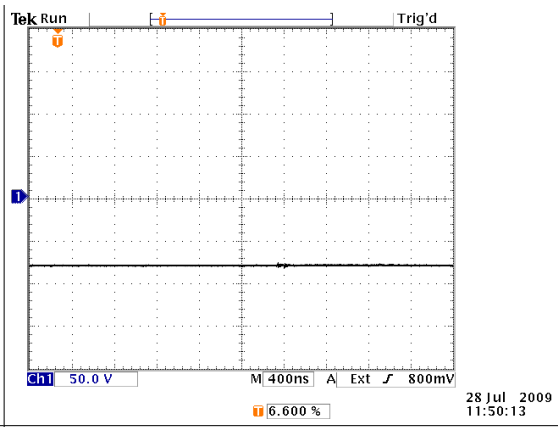
7. Turn on the instrument, set “output” to “on”, and “AMP2” to -80V. The voltage across the green resistor should be -80V. If it isn't, measure the voltage across D1 on the left side of PCB 168B. It should be +24V.

8. If the +24V and +80V voltages are OK, turn off the instrument and re-connect the 25 pin control cable. Leave the jumper clip in place. Install a DUT in the jig.

9. Turn the instrument on, and set it to 100 Hz / +3A / -80V / 200 MA/s / output “on”. The waveforms below show the expected operation of the test jig. You can probe the jig for these waveforms, but beware that some points may have DC voltages as high as -80V. If you are not comfortable with this, return the instrument to Avtech for evaluation or repair.

Location	Full scale waveform	Finer scale waveform
(A) - U2, pin 4		
(B) - Q2 metal tab		
(C) - K1, pin 6		

(D) - C20, front-most pin		
(E) - U1, pin 5		
(F) - between R20 and R22		
(G) - between R32 and D7		

(H) - R26, front-most pin		
(I) - output waveform