

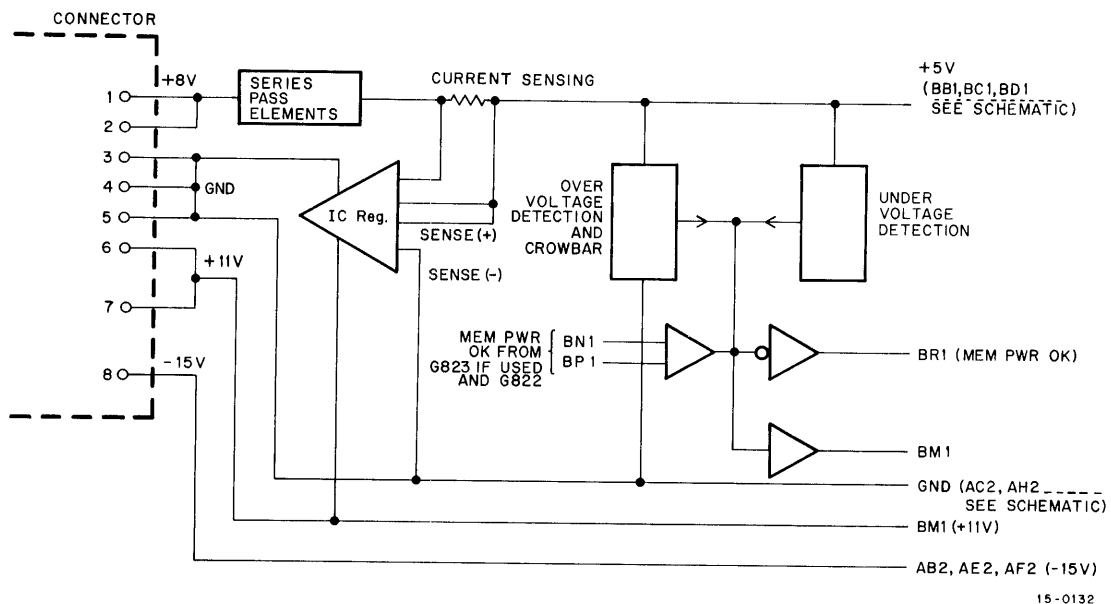
# G821 +5V Regulator

The G821 module contains a voltage regulator with over-voltage, under-voltage, and over-current protection circuits. This module supplies the regulated +5V in the memory of the PDP-15. Combinational logic circuits are also included in the module to provide lamp driver and memory power OK signals when the memory voltages are within set levels. The input power connections to the module are made with an 8-pin mate-in-lock connector at the back of the module.

The following are the input and output characteristics of the G821 module.

**INPUTS:** The inputs to the G821 module are +8V, +11V, -15V, and ground. These voltages are supplied by the 715 power supply. The module also receives positive level power OK signals from the G822 and G823 modules.

**OUTPUTS:** The outputs of the G821 module are variable 4.5V to 5.5V at 7A (maximum)\* (when set at 5V, regulation is  $\pm 2\%$  with a ripple voltage of 25 mV peak-to-peak); +11V at 1.0 amp (maximum) with the same regulation as the input voltage; and -15V at 3.0 amps (maximum) with the same regulation as the input voltage.



G821 Simplified Diagram

\*The 7A rating is valid only when adequate fan cooling is used. Without additional coding, the output rating is 2A (maximum). The +5V potentiometer must be rotated clockwise to obtain a higher output voltage.

Additional outputs include an open collector lamp driver (output pin BM1) that is turned on when the 5V power is within set limits (by rotating the voltage detection potentiometer CCW, the low voltage limit decreases) and an open collector driver (output pin BR1) that is turned on only when the 5V power is not within set limits. Voltage limits are usually set at 4.75V by the voltage detection potentiometer, while the upper voltage detection level is set at 5.5V.