

Gating an Ag8105 Output with an External Power Supply

In this application note the +6Vdc “External Power Supply” has priority over the Ag8105 output. D1 and D2 are 1N5820 Schottky diodes with a forward voltage drop of approximately 0.5V each, therefore the voltage supplied to the device will be +5.0V.

With the external +6Vdc supply present, both Q2 and Q1 transistors will be ON. Q1 will bypass Ag8105 adjust resistor “RN1a” (6K2), connecting the ADJ input to +VDC. This will set the Ag8105 output voltage to approximately +4.5V (because +VDC is less than the +5V output, D3 will not conduct).

If the external +6Vdc supply is removed, then Q2 and Q1 will turn OFF and Ag8105 adjust resistor will set the output to +5.5V. C1 slows down the rate of change to prevent the Ag8105 protection circuit from seeing this as a fault condition and shut down.

With the Ag8105 output voltage at +5.5V, D3 will conduct maintaining the +5V output to the device. There will be a slight dip in the output voltage during the transitions between the external +6V supply and the Ag8105 output. This will depend on the current drawn by the device and its capacitance.

