

# Gating an Ag8105 Output with a Back-up External Power Supply

This application note shows how an external power supply can be used as a back-up, in case the output power from the Ag8105 is lost.

When the Ag8105 is operating normally the power to the device is sourced from the Ag8105 output via D1.

R1 is used to increase the Ag8105 output to approximately +5.5V to allow for the forward voltage drop of D1. The voltage on the base of Q1 will be higher than that on the emitter and Q1 will be switched off.

If the Power Sourcing Equipment (PSE) fails, the Ag8105 will shut down. When the Ag8105 output voltage drop to ~ 4.3V, Q1 will switch on and the power to the device will be supplied via Q1. There will be a slight dip in the output voltage during the transitions between the Ag8105 output and the external +5.0V supply.

When the PSE power is restored +VDC will return to +5.5V, switching Q1 off and the Ag8105 will resume supplying the power to the device via D1.

Q1 is a SOT23 package and must be connected to sufficient tracking surface area to provide a heatsink for the device.

