

Gating an Ag9050 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 Ag9050 is lost.

When the Ag9050 is operating normally the power to the device is sourced from the +VDC output via D1.

R1 is used to increase the Ag9050 output 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 Ag9050 will shut down. When the +VDC output voltage drop to ~ 4.3V Q1 will switch on and the power to the device will be supplied via Q1. This will result in a dip in the supply voltage to the device, as shown.

When the PSE power is restored +VDC will return to +5V, switching Q1 off and 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.

C1 is used to remove the effect of an output load step change on the Ag9050.

