

## SYSTEM CONSIDERATIONS

Continued proper operation of the LM5064 hot swap circuit requires a voltage clamping element present on the supply side of the connector into which the hot swap circuit is plugged in. A TVS (Transient Voltage Suppressor) is ideal, as depicted in Figure 15 as  $Z_1$ . The TVS is necessary to absorb the voltage transient generated whenever the hot swap circuit shuts off the load current. If the TVS is not present, inductance in the supply lines will generate a voltage transient at shutdown which can exceed the absolute maximum rating of the LM5064, resulting in its destruction. For low current solutions (<2A), a capacitor may be sufficient to limit the voltage surge, however this comes at the expense of input surge current on card insertion.

If the load powered by the LM5064 hot swap circuit has inductive characteristics, a Schottky diode ( $D_1$ ) is required across the LM5064's output, along with some load capacitance ( $C_L$ ). The capacitance and the diode are necessary to limit the negative excursion at the OUT pin when the load current is shut off. If the OUT pin transitions more than 0.3V negative the LM5064 can be permanently damaged. See Figure 15.

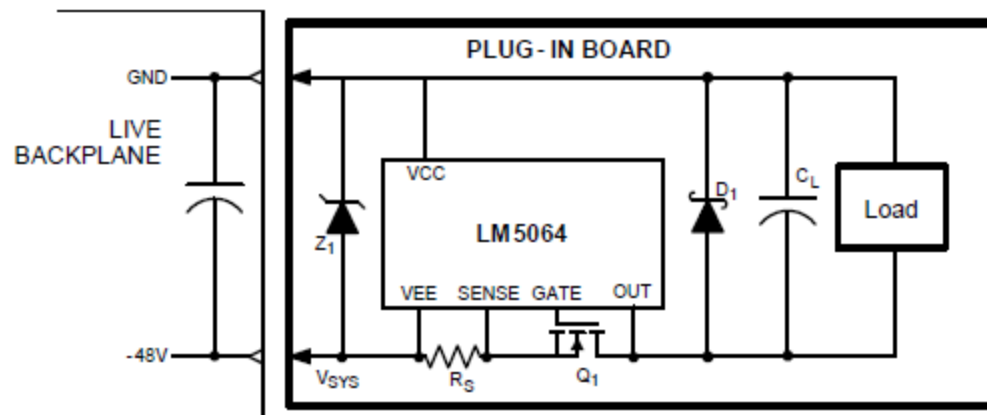


Figure 15. Output Diode Required for Inductive Loads