

# PC Cards and Sockets

## Application Overview

### Problem/Solution

PC cards are the standard method for adding capabilities to portable computers. The cards have low operating currents of 70mA to 100mA. Threats to the PC cards and the PC card bus come from sources external to the cards and bus—damaged cables or incompatible cards, for example—not from failure of the PC cards themselves. Use of PolySwitch resettable devices on the PC card itself or in the host computer provides overcurrent protection, which minimizes the chances of permanent damage should a fault occur.

### Typical Protection Requirements

Short-circuits from external sources are the primary hazards for PC cards. The cards need protection from large current inrushes that can damage the PC card or the PC card bus.



### Technology Comparison

The circuit designer has many options available, including fuses and power management circuits. Fuses provide current interruption; however, the fuse can provide protection only once and then it must be replaced, which may not be possible on a PC card. The designer can also

choose to use a power management circuit, but the cost can be prohibitive or the space unavailable. PolySwitch resettable devices latch into a high-resistance state when a fault occurs. Once the fault and power to the circuit are removed, the device automatically resets and is ready for normal operation.

### Device Selection

Devices that are typically used in this application are miniSMD, microSMD, nanoSMD and SMDxxx-2018 series.

Figure 1. Type II PC Card and Socket

