

Fibre Channel

Application Overview

Problem/Solution

A Fibre Channel network can be connected through copper cabling or optical fibre cables. Fibre optic transceivers provide a high-speed serial electrical interface for connecting processors, switches, and peripherals through an optical fibre cable. A Gigabit Interface Converter (GBIC) is used to convert signals to light. The GBICs use lasers that enable cost-effective data transmission over optical fibres at distances of up to 10 kilometers. These compact, hot-pluggable modules are designed to connect easily to a system card through an industry-standard connector.

Typical GBIC features include short-wavelength (SW) or long-wavelength (LW) lasers, hot-pluggable capability, and compact design. The GBIC runs at a voltage of $+5V \pm 5\%$ and a current of 300mA maximum. A typical Fibre Channel PCI Card has PCB power of 9W max, 6W typical at $5V \pm 5\%$ which results in approximately 1.8A maximum.

Typical Protection Requirements

A fault, such as a short-circuit during testing or hot-swapping a PCI card, can cause significant damage. Furthermore, on an optical fibre application, incorrect insertion of the GBIC or a foreign object placed into the connector

can also cause permanent damage to the system. Protection on the PCI bus input is typically used as well as a secondary protector for the GBIC I/O.

Device Selection

miniSMDC260 devices are typically used for PCI bus protection. miniSMDC110 devices are typically used for GBIC protection.

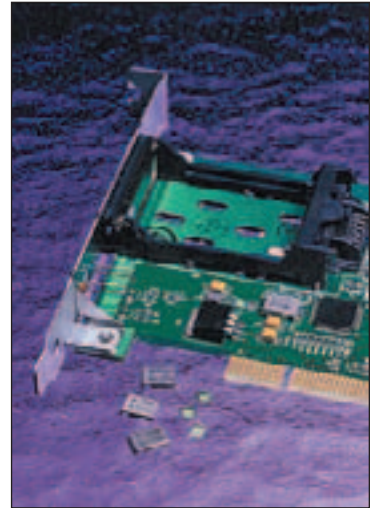


Figure 1. Typical Schematic

