

SATA HDD Interface

Data & Power Protection

Solution Products



MF-MSMF075/24-2



SMBJ5.0A



CDDFN10-0524P

Design Kit



PN-DESIGNKIT-28

Objective

SATA Hard Disk Drives are typically powered from 5 VDC. The power line needs transient, inrush and reverse polarity protection. There are also data lines susceptible to damage from ESD events when the drive is not connected.

Solution

- 1 Multifuse[®] PPTC Resettable Fuse: MF-MSMF075/24-2
- 1 TVS Diode: SMBJ5.0A
- 1 TVS Diode Array: CDDFN10-0524P

Compliance

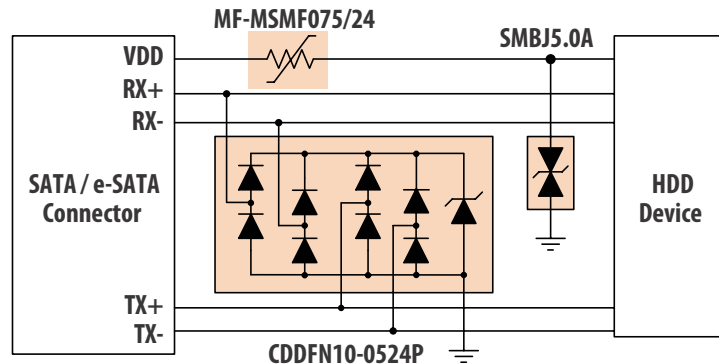
IEC 61000-4-2 ESD Level 4, 8 kV

Alternate Recommendations

HDD powered from 12 VDC would instead use a model SMBJ12A TVS Diode on the power line.

Benefit

This solution provides surge, inrush and reverse polarity protection on the power line and ESD protection on the data lines.



The schematic above illustrates the application protection and does not constitute the complete circuit design. Customers should verify actual device performance in their specific applications.