

RS-485

Serial Port - ESD / EFT / Surge Protection

Solution Products



TBU-CA065-300-WH



MOV-10D201K



CDSOT23-SM712

Design Kit



PN-DESIGNKIT-22

Objective

RS-485 (TIA/EIA-485) is a balanced data transmission scheme that uses voltage levels from -7 V to +12 V (max.) at data rates up to 10 Mbps. This solution provides protection against ESD, EFT, power and surge faults.

Solution

2 TBU[®] High-Speed Protectors:

TBU-CA065-300-WH

2 MOVs: MOV-10D201K

1 TVS Diode Array: CDSOT23-SM712

Compliance

IEC 61000-4-2 ESD Level 4 (8 kV / 15 kV)

IEC 61000-4-4 EFT

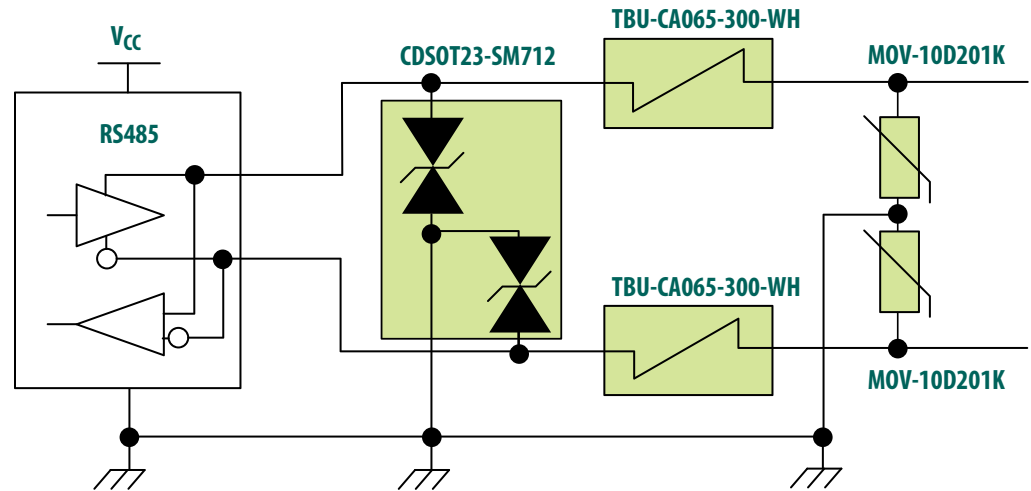
IEC 61000-4-5 Surge / Lightning

Alternate Recommendations

SMBJ6.5A and SMBJ12A TVS Diodes with MF-RM012/240 Multifuse[®] PPTC Resettable Fuse

Benefit

This solution provides excellent protection for both indoor and outdoor applications. It also protects against 28 V_{RMS} and 120 V_{RMS} power cross condition.



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.