

SMT Diodes - Transient Protection

Smiths Connectors offers a complete line of transient protection solutions embedded within the connector shell utilizing surface mount technology (SMT) diodes. These can be provided as an alternative to axially leaded components in instances where availability of source of supply issues could potentially become an issue. The incorporation of SMT components can offer space and weight savings based on connector application requirements.



Benefits

- Significant reduction in board space and connector weight
- Low incremental surge resistance
- Fast response time, typically less than 1.0ps
- Low zener diode impedance values
- Better thermal conductivity for high power dissipation requirements
- Increased flexibility in design limits
- Increased mean time between failures (MTBF)
- Improved shock and vibration resistance
- No ground spring connector from cathode lead to connector ground plane

EMI/RFI and EMP protection can both be integrated into a connector with only a small increase in length over the non-filtered version. Smiths Connectors's design approach for diode connectors is unique, mounting diodes around the outside of the contact arrangement on a multi-layer circuit board within the connector. Smiths Connectors uses standard military or commercial grade diodes, located outside the contact arrangement to allow for size and shape options so the power/pulse width capability is preserved. The circuit traces from the contact to the diode are kept as

wide as possible and are sandwiched between ground planes, providing a very low characteristic impedance strip line configuration thus eliminating any “ringing” of pulse response.



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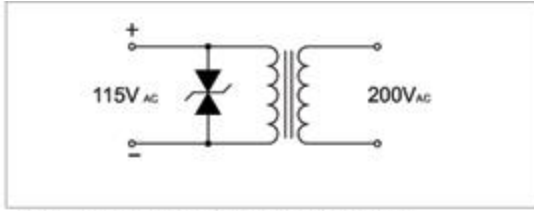


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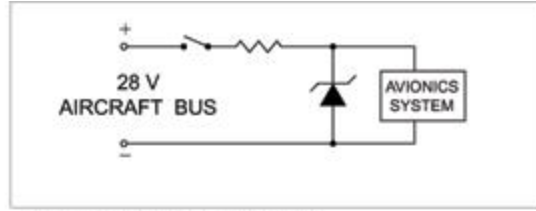


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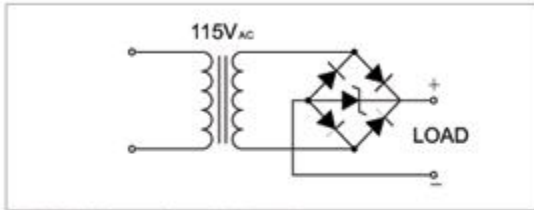
High Speed/Video Line/Integrated Circuit/Power Supply Protection



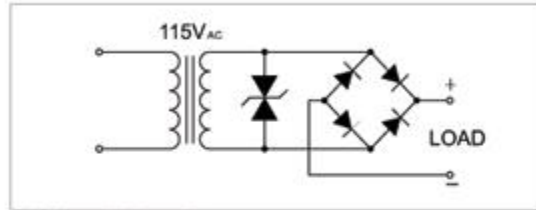
Circuit Protection from Overvoltage Supply



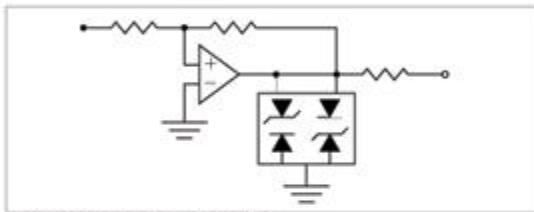
28VDC Power Supply Protection



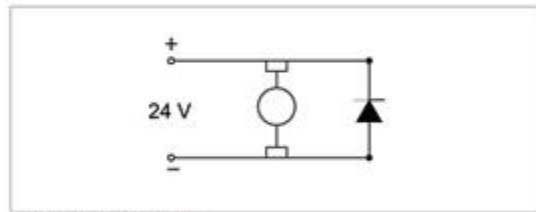
115VAC Power Supply Protection



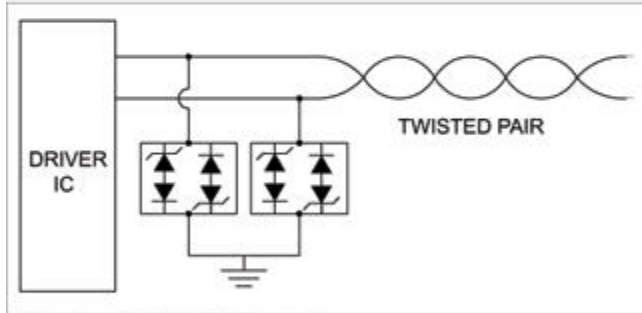
AC Supply Protection



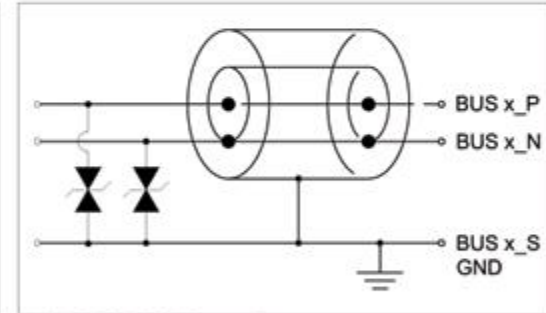
High Speed Data Protection



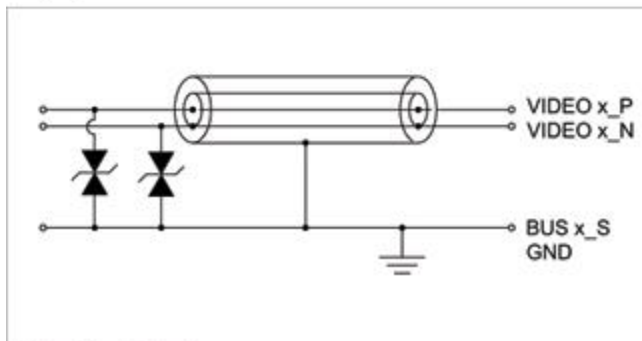
DC Motor Protection



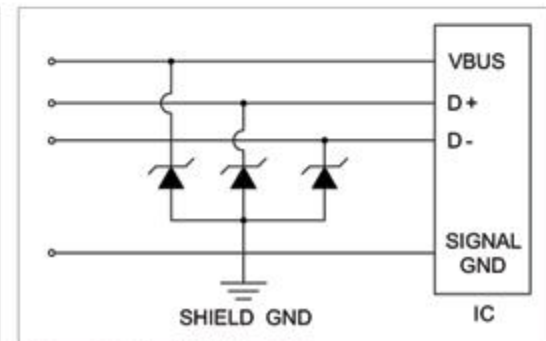
High Speed RS485 ESD Protection



MILBUS 1553B Protection



Video Line Protection



Integrated Circuit (IC) Protection