


**INTERFACE APP NOTE**
**Gigabit ETHERNET Protection 3.3V PHY**

**DFN-10 PACKAGE**
**OBJECTIVE**

Ethernet interfaces are 3.3V digital signals operating on a 125MHz clock. This solution provides ESD protection commonly required in indoor, short-cable applications where ESD is the primary threat. It also provides protection for secondary lightning surges.

**BENEFIT**

This integrated TVS diode solution is designed to protect the interface against surge events by using two devices (PLR3343) to protect both pairs of Ethernet lines. Circuit assumes magnetics will provide 1500V isolation to external surges.

**COMPLIANCE**

- IEC 61000-4-2 ±8kV Contact, ±15kV Air Discharge
- IEC 61000-4-4 EFT 40A, 5/50ns
- IEC 61000-4-5 Surge Secondary Lightning, 5A @ 8/20μs

**SOLUTION**

- 2 x PLR3343 in DFN-10 Package
- Stand-Off Voltage  $V_{WM}$ : 3.3 Volts
- Breakdown Voltage  $B_{V_{MIN}}$ : 5.6 Volts
- $V_C @ I_p$ : 25V @ 5A
- Leakage Current  $I_R$ : 1.0μA
- Typ. Capacitance: 0.5pF IO to GND

**ALTERNATE RECOMMENDATIONS**

- 2 x PLR3311
- 4 x GBLC03CI

