

**INTERFACE APP NOTE**
**HDMI 2.0 Protection**

**DFN-10 PACKAGE**

**SOD-323 PACKAGE**
**OBJECTIVE**

HDMI 2.0 offers 18Gbps of enhanced throughput for video, audio and Ethernet transmissions. Applications included Ultra High Definition Televisions (UHDTV), Set-top Boxes, DVD Players and PC Gaming Consoles. Robust ESD protection that does not affect the impedance of the differential transmission lines are required. Overcurrent and surge protection of the 5V supply from spikes caused by hot-plugging of the connector is also required.

**BENEFIT**

The integrated TVS Diode solution is designed to protect the interface against surge events by using three devices (PLR0514LC) to protect 12 lines of datalines and clock pulses. A separate device (PSD05HP) can be used to protect the  $V_{CC}$  Bus.

**COMPLIANCE**

- IEC 61000-4-2  $\pm 8kV$  Contact,  $\pm 15kV$  Air Discharge
- IEC 61000-4-4 EFT 40A, 5/50ns
- IEC 61000-4-5 Surge Secondary Lightning, 3A @ 8/20 $\mu s$

**SOLUTION**

- 3 x PLR0514LC in DFN-10 Package
- Stand-Off Voltage  $V_{WM}$ : 5 Volts
- Breakdown Voltage  $B_{VMIN}$ : 6.0 Volts
- $V_C @ I_p$ : 14.8V @ 3A
- Leakage Current  $I_R$ : 1.0 $\mu A$
- Typ. Capacitance: 0.48pF IO to GND
- 1 x PSD05HP (SOD-323) for  $V_{CC}$  Bus @ 1kW Level

**ALTERNATE RECOMMENDATIONS**

- 3 x PLR0524

