Application Guide
HDMI

Considerations:

● Each port has 3 differential lanes of data (i.e. D0±, D1±, D2±) plus a clock (CLK±)
→ For HDMI 1.1-1.2 the throughput is a total of 4.95Gbps (1.65Gbps per lane)
→ For HDMI 1.3 the throughput is a total of 10.2Gbps (3.4Gbps per lane)

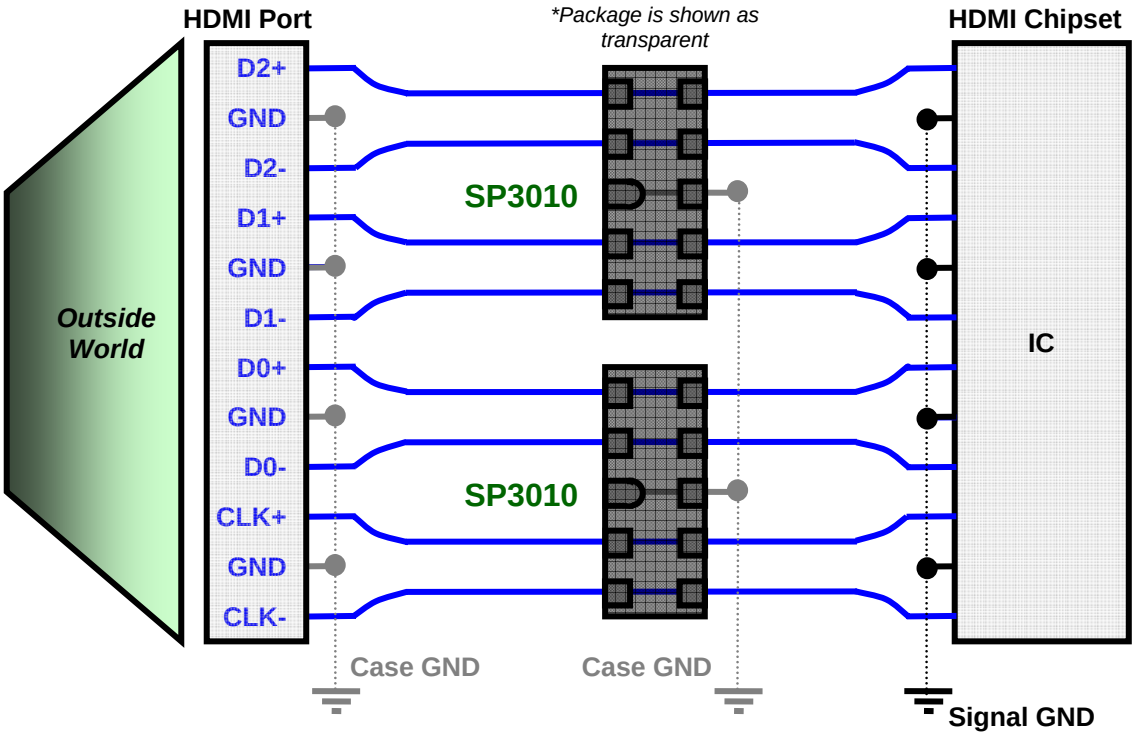
● To maintain the differential impedance per the HDMI Compliance Test Specification (and consequently signal integrity) a very low capacitance device must be used

● To maintain the differential impedance the designer should avoid using 90º angles and vias.
→ This can be accomplished by the use of an ESD device that offers a "straight-through" routing scheme

● Requires 8 channels of protection per port (D0±, D1±, D2±, CLK±)

● The V_{CC} pin on the SP3003-04ATG should be "NC" if backdrive is a concern. There is no V_{CC} pin on the SP3010-04UTG.

Application Schematic:



Recommended SPA Devices:

Ordering Number	ESD Level (Contact)	I/O Capacitance	# of Channels	V_{RWM}	Packaging
SP3010-04UTG	±8kV	0.45pF	4	6V	µDFN-10 (2.5x1.0mm)
SP3003-04ATG	±8kV	0.65pF	4	6V	MSOP-10