

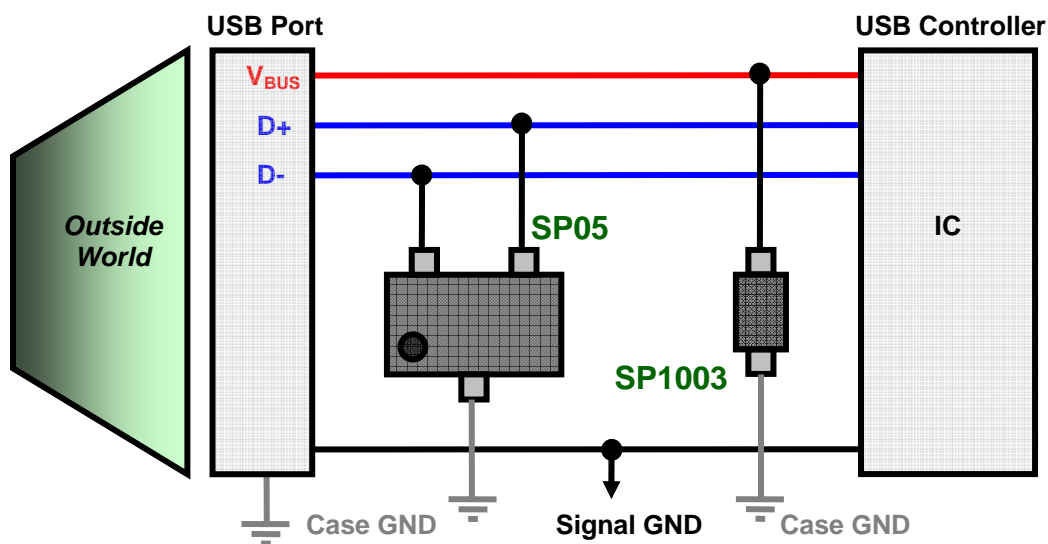
Application Guide

USB1.1

Considerations:

- Each port operates at either 1.5Mbps or 12Mbps (low and full speed respectively)
→ Slower speeds can tolerate higher capacitance devices
- Requires 2 channels of data line protection per port (i.e. D+/D-)
→ A 4 channel device can be useful if protecting a USB stack of 2 ports to make the ESD footprint as small as possible
→ **V_{BUS}** can be protected separately with a single channel device (*0402 shown*)

Application Schematic:



Recommended SPA Devices:

Ordering Number	ESD Level (Contact)	I/O Capacitance	# of Channels	V _{RWM}	Packaging
SP0502BAJTG	±20kV	30pF	2	5.5V	SC70-3
SP1001-02XTG	±8kV	12pF	2	5.5V	SOT553
SP1001-04XTG	±8kV	12pF	4	5.5V	SOT553
SP1003-01DTG	±25kV	30pF	1	5.0V	SOD723