

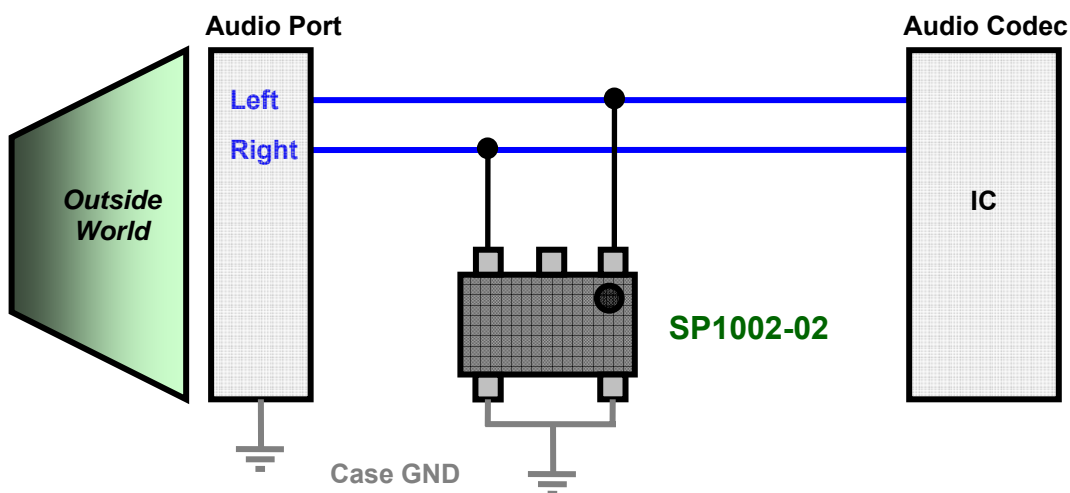
## Application Guide

### Audio (Speaker/Microphone)

#### Considerations:

- Audio ports typically have signals that swing above and below GND (i.e.  $\pm 2.5V$ )
  - If no bias is applied, a bidirectional protection device should be used
  - These devices will not clip the analog signal as they only conduct or turn on above  $\pm 6V$
  - Protection of 2 data lines is shown below (i.e. **Left** and **Right**)
- Some audio ports will bias the data bus so that the signal never swings below GND (i.e. 0-5V)
  - If a bias is applied, a unidirectional OR bidirectional protection device could be used as neither device would clip the analog signal
  - The **SP1001-02XTG** is a good option in this case (not shown for **Left** and **Right** but is listed below)

#### Application Schematic:



#### Recommended SPA Devices:

Ordering Number	ESD Level (Contact)	Lightning ( $t_p=8/20\mu s$ )	I/O Capacitance	# of Channels	$V_{RWM}$	Packaging
<b>SP1002-02JTG</b>	$\pm 8kV$	2A	5pF	2	6V	SC70-5
<b>SP1002-01JTG</b>	$\pm 8kV$	2A	5pF	1	6V	SC70-3
<b>SP1001-02XTG</b>	$\pm 8kV$	2A	8pF	2	6V	SOT553