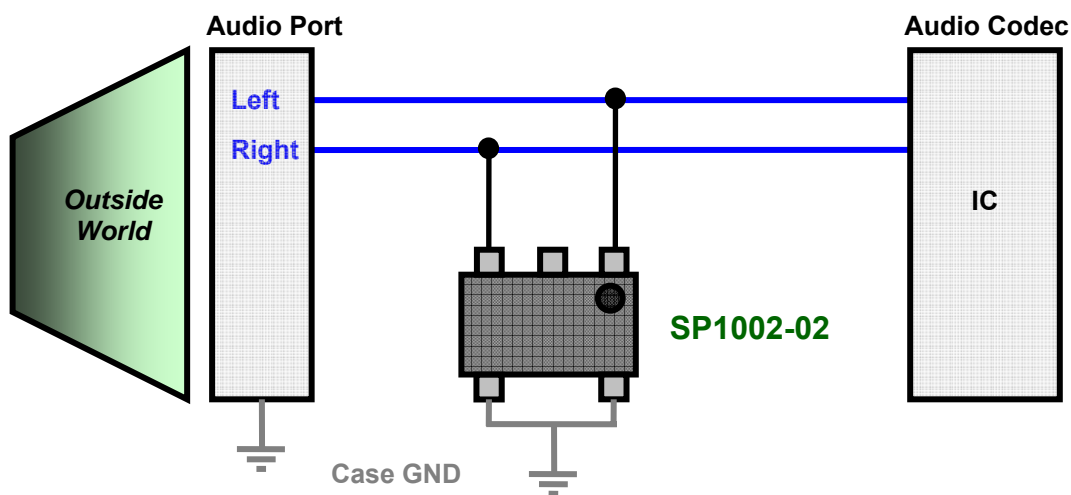


Application Guide Audio (Speaker/Microphone)

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
SP1002-02JTG	$\pm 8kV$	2A	5pF	2	6V	SC70-5
SP1002-01JTG	$\pm 8kV$	2A	5pF	1	6V	SC70-3
SP1001-02XTG	$\pm 8kV$	2A	8pF	2	6V	SOT553