



## Ultra low capacitance bidirectional ESD protection in small packages

# ESD arrays with 2.9 pF to protect up to 5 lines

Portable electronics keep becoming smaller. Data interfaces are featuring tremendously increasing signal rates. Reduced chip size and maximized density make today's integrated circuits much more sensitive to ElectroStatic Discharge (ESD). NXP offers a series of ESD protection diodes that perfectly match this triangle: ultra small size, very low line capacity and excellent ESD protection.

### Key benefits

- ▶ Minimum PCB area requirement
- ▶ ESD protection for high speed applications
- ▶ Maximum PCB design flexibility
- ▶ Lower clamping voltages and higher reliability compared to varistors
- ▶ Broad package range from 3 lead to 6 lead including MicroLead and leadless package SOT66x/SOT88x

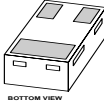
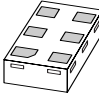
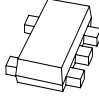
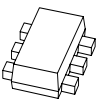
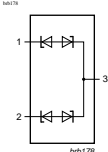
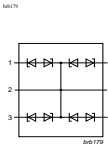
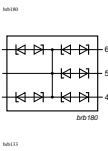
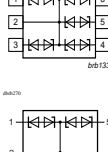

### Key features

- ▶ Ultra low diode capacitance:  $C_d = \text{typ. } 2.9 \text{ pF}$
- ▶ Ultra low leakage current:  $I_{RM} = \text{typ. } 5 \text{ nA}$
- ▶ ESD protection up to 5 lines
- ▶ ESD protection exceeding the standard: = 10 kV
- ▶ ESD Standard IEC 61000-4-2; level 4 = 8 kV

### Key applications

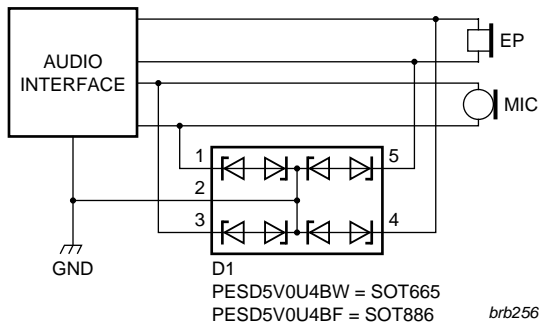
- ▶ Portable electronics (MP3, PDA and MPA)
- ▶ Cellular handsets and accessories
- ▶ Notebooks, desktops and servers
- ▶ High-speed data lines

## Selection guide

no. of protected lines (bi)	C <sub>d</sub> [typ] [pF]	V <sub>RWM</sub> [max] [V]	V <sub>ESD</sub> [max] [kV]	I <sub>RM</sub> [max] [μA]	@V <sub>R</sub> [V]	configuration symbol	SOT883	SOT886	SOT665	SOT666
										
							1.0 x 0.6 x 0.5	1.45 x 1.0 x 0.5	1.6 x 1.2 x 0.55	1.6 x 1.2 x 0.55
2	2.9	5	10	0.1	5		PESD5V0U2BM			
4	2.9	5	10	0.1	5			PESD5V0U4BF		
4	2.9	5	10	0.1	5				PESD5V0U4BW	
5	2.9	5	10	0.1	5					PESD5V0U5BV
5	2.9	5	10	0.1	5		PESD5V0U5BF			

## Application examples

### Earphone (headset) protection



### Smart card protection

