

## NXP solutions for consumer and computing interfaces

# Best-in-class protection and signal conditioning

As the leading supplier of ESD protection ICs, NXP now offers ESD and surge protection, as well as signal conditioning, with added features such as level shifting. Designed for today's most popular interfaces, such as USB3.0/2.0, HDMI, eSATA, DisplayPort, Ethernet, and LVDS, these complete block solutions deliver the highest levels of integration and enable out-of-the-box operation.

### Key features

- ▶ Extremely low capacitance
- ▶ Minimize the remaining ESD energy passed on to devices behind the connector
- ▶ High functional integration for HDMI

### Key benefits

- ▶ Minimized impact on signal integrity, even for very fast data lines
- ▶ Maximized protection for the system chip
- ▶ Extremely low impedance dips make it easy to pass
- ▶ TDR-measurements for HDMI compliance in small designs
- ▶ Highly integrated HDMI solutions offer out-of-the-box compliance while minimizing time to market

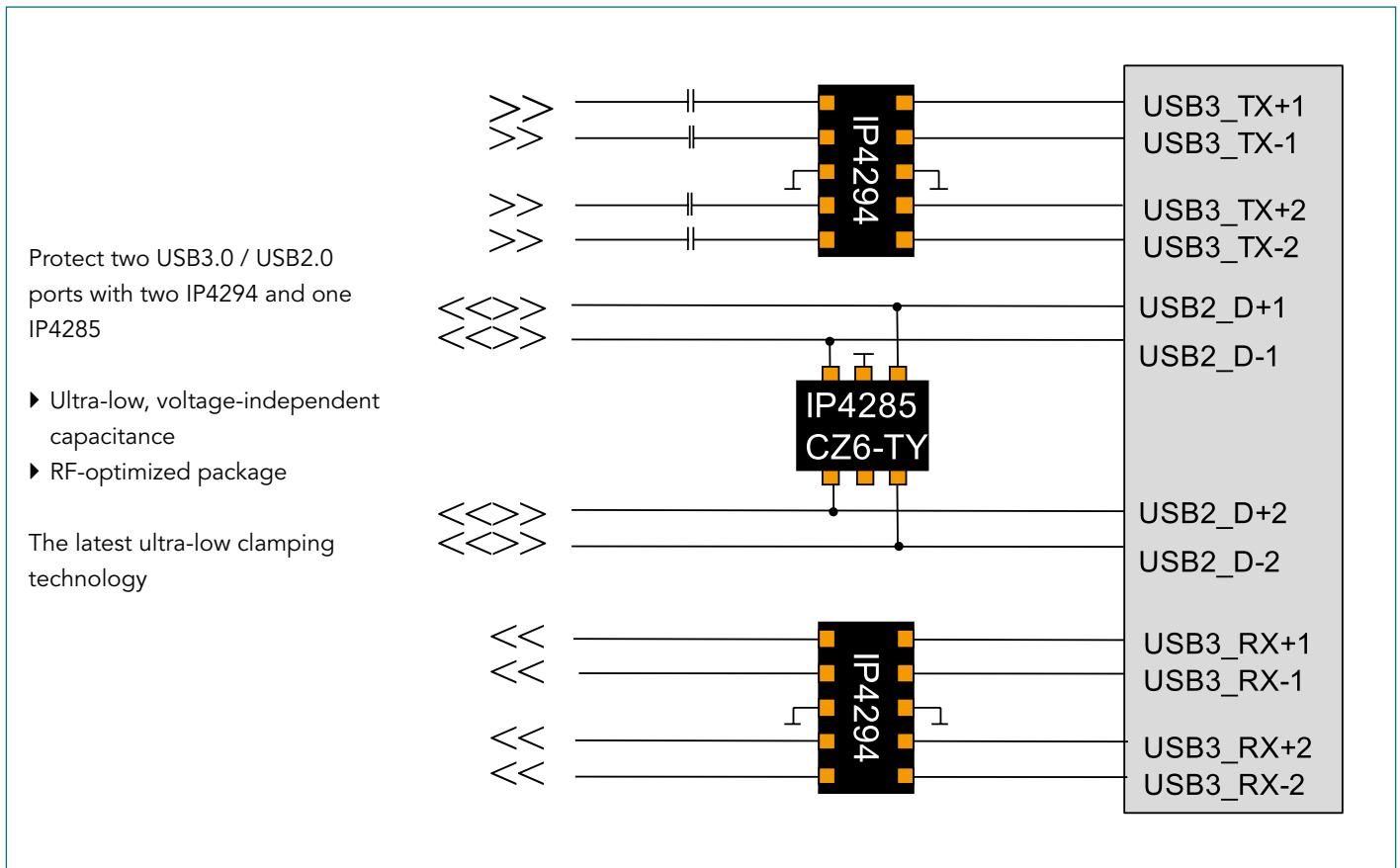
### Key applications

- ▶ USB3.0 and USB2.0 interfaces
- ▶ LVDS
- ▶ eSATA interfaces
- ▶ HDMI and DisplayPort interfaces
- ▶ Ethernet interfaces



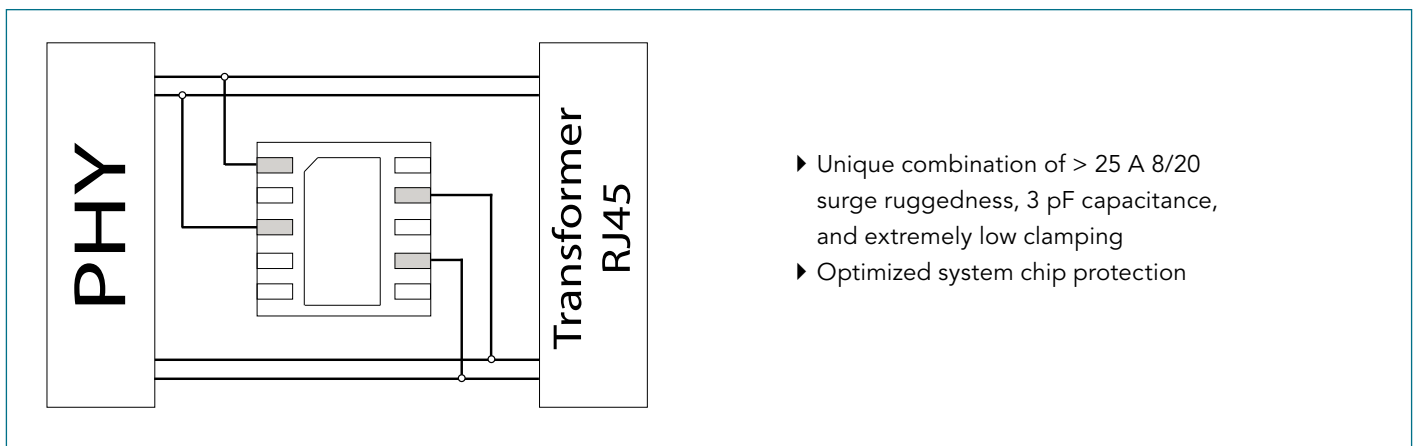
# USB3.0 and USB2.0

Industry-leading protection for even the most sensitive system chips using the IP4294 and IP4285



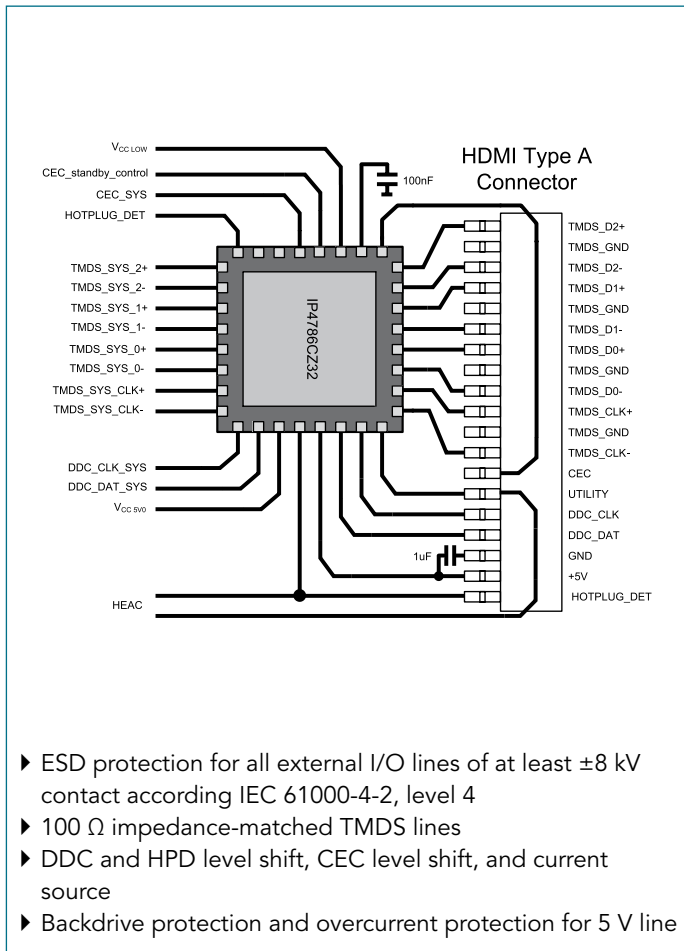
## Ethernet surge protection

Benchmark ruggedness for Ethernet surge protection with the IP4238CZ10

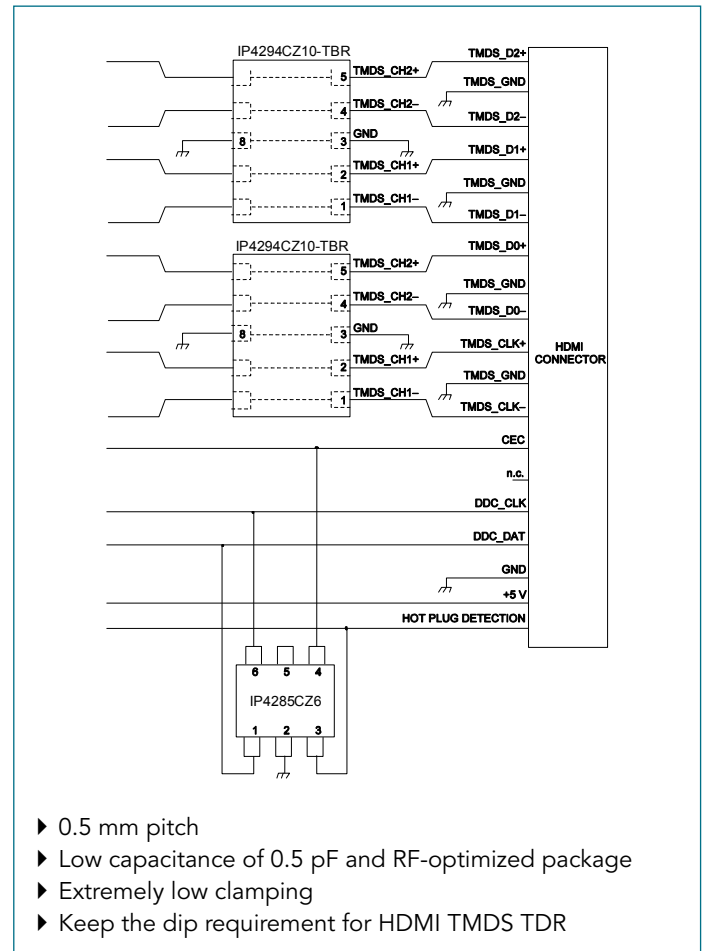


# HDMI signal conditioning and protection solutions

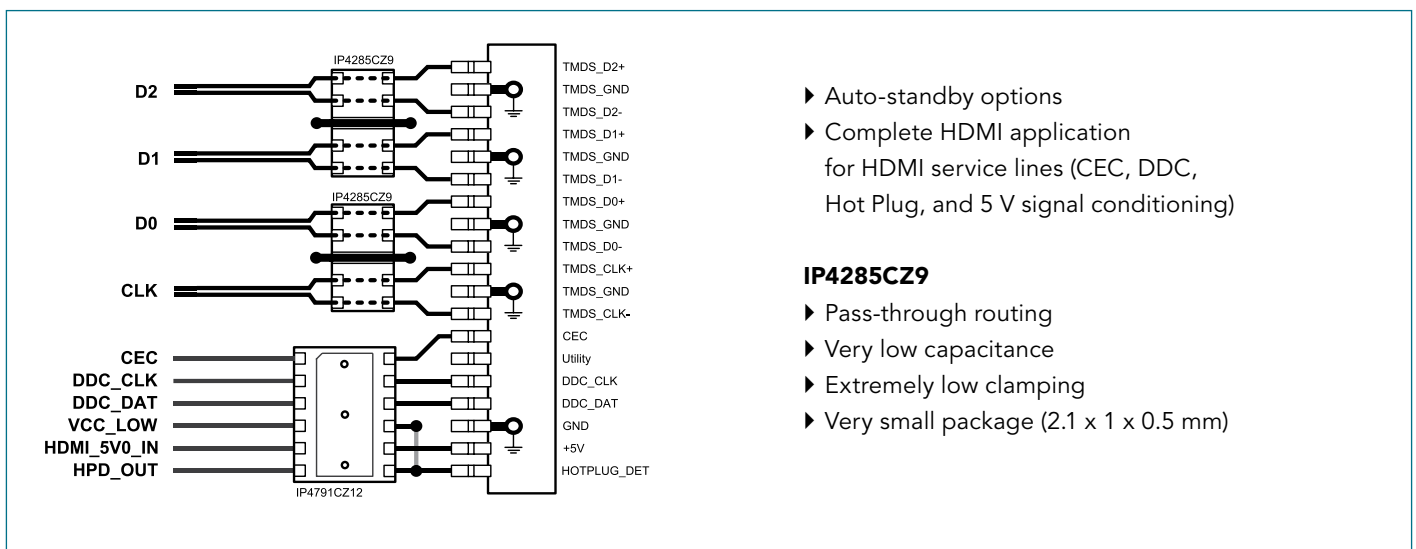
Implement a complete HDMI transmitter application in one box with the IP4786



Shrink the footprint while delivering benchmark system chip protection with the IP4294 and IP4285

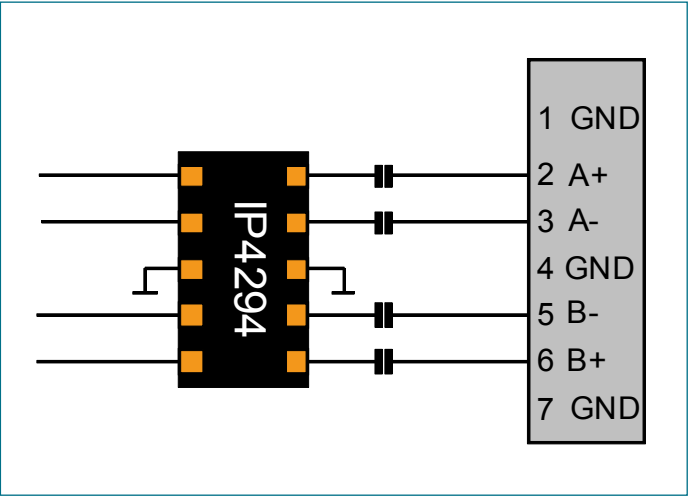


Boost battery performance with the IP4791 and IP4285

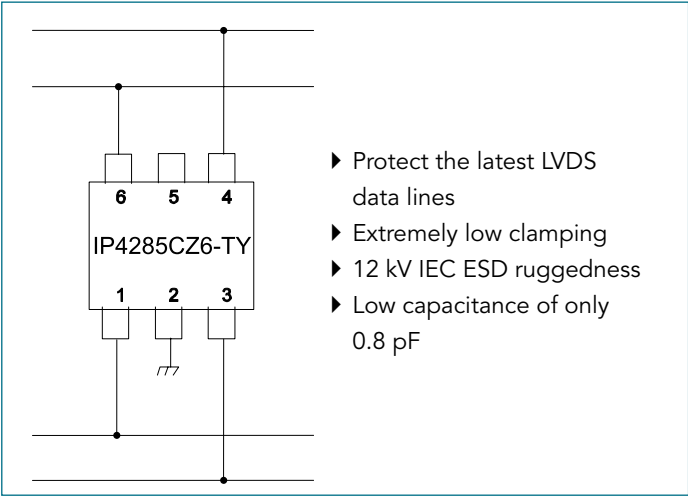


# eSATA ESD protection, LVDS lines

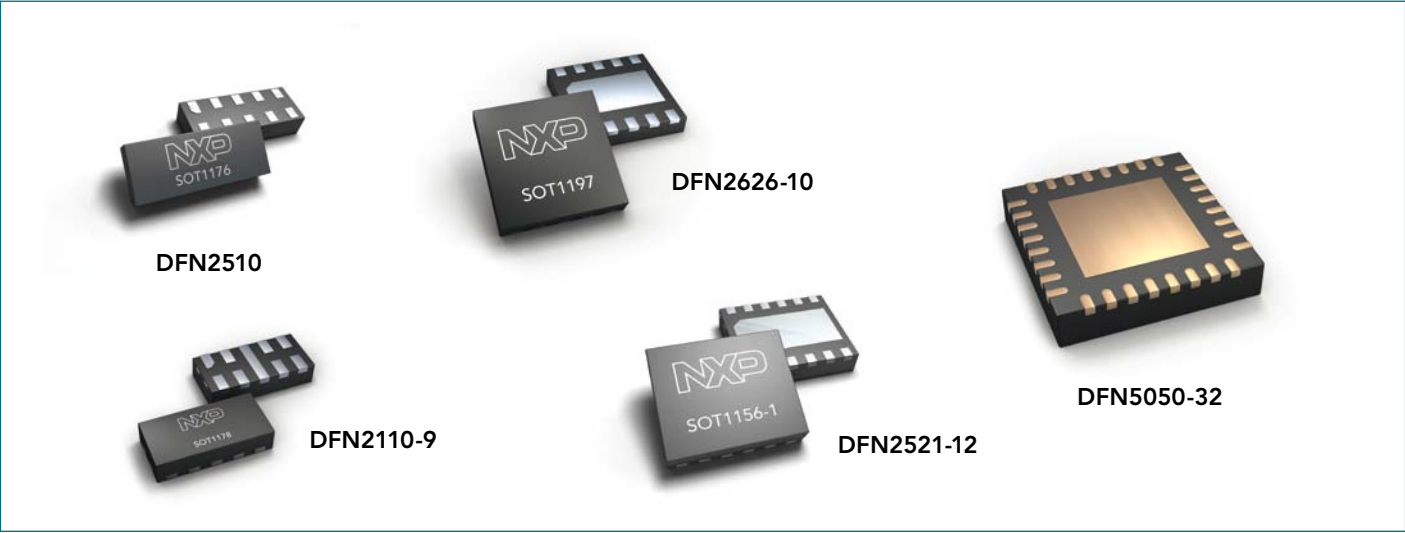
## Protecting an eSATA port with the IP4294CZ10-TBR



## A versatile device for LVDS IP4285CZ6-TY



## Wide choice of leadless packages



Type number	Package outline	Package name	Number of protected lines	Cd [typ] (pF)	Vesd IEC61000-4-2 (kV)	Application	Size (mm)
IP4786CZ32	SOT617-3	DFN5050-32	13	0.6	8	HDMI transmitter signal conditioning	5.0 x 5.0 x 1.0
IP4791CZ12	SOT1156-1	DFN2521-12	5	8	10	HDMI transmitter signal conditioning	2.5 x 2.1 x 0.5
IP4238CZ10	SOT1197-1	DFN2626-10	4	3	30	Ethernet surge protection > 25 A 8/20	2.6 x 2.6 x 0.5
IP4294CZ10-TBR	SOT1176	DFN2510-10	4	0.5	10	USB3.0, HDMI, eSATA ESD protection	1 x 2.5 x 0.5
IP4285CZ9-TBB	SOT1178	DFN2110-9	4	0.8	12	HDMI, DisplayPort, eSATA ESD protection	1 x 2.1 x 0.5
IP4285CZ6-TY	SOT363		4	0.8	12	LVDS, HDMI, DisplayPort, eSATA ESD protection	2.0 x 1.25 x 0.95
IP4285CZ6-TD	SOT457		4	0.8	12	LVDS, HDMI, DisplayPort, eSATA ESD protection	2.9 x 1.5 x 1.0