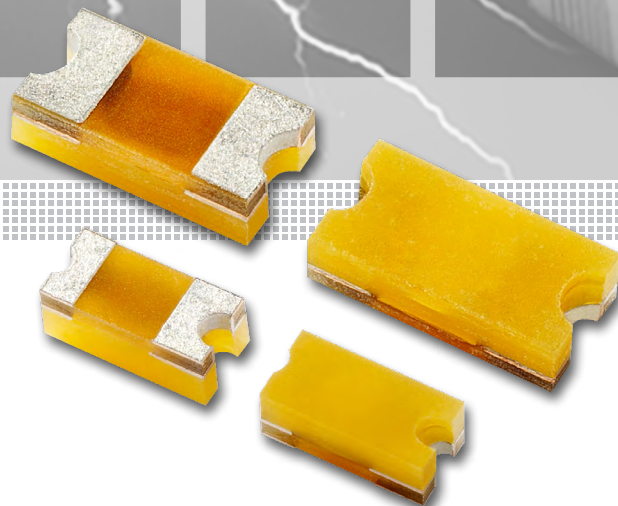


# 30kV

## ESD PROTECTION

FOR HIGH SPEED DATALINE I/O



## Most Reliable for High-speed Dataline I/O Protection up to 32VDC

Available in popular 0402 and 0603 package sizes. Provides ultra-low capacitance to maintain signal integrity for data rates up to 5.0GHz. Best suited for high-speed applications like USB 3.1, IEEE1394, HDMI 2.0 and DVI.

Xtreme-Guard™ XGD Series ESD suppressors with breakthrough technology exhibit ultra-low (<1 nanoamp) leakage current. The XGD Series' extremely low power consumption makes it ideal for use in battery-powered devices.

### Applications

- Wearable Devices
- Notebooks/Laptops/PCs
- Gaming Consoles
- Smart TVs
- Smartphones
- Tablets
- Set-Top Boxes
- Networking and Wireless Hardware
- Stationary and Portable Medical Devices



Datasheet



Resources



Samples



## Breakthrough ESD technology protects a broad range of sensitive electronic devices



0603 Footprint



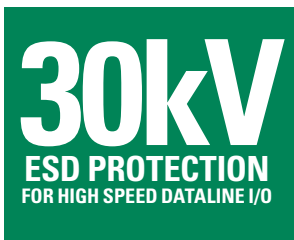
0402 Footprint

### Features

- High ESD Withstand Rating
  - 30kV contact /air discharge
- High voltage rating
  - 24Vdc – XGD10402
  - 32Vdc – XGD10603
- Low (<1nA) leakage current
- Ultra-low capacitance
  - 0.04pF – XGD10402
  - 0.09pF – XGD10603
- Flat top, surface mount form factor

### Benefits

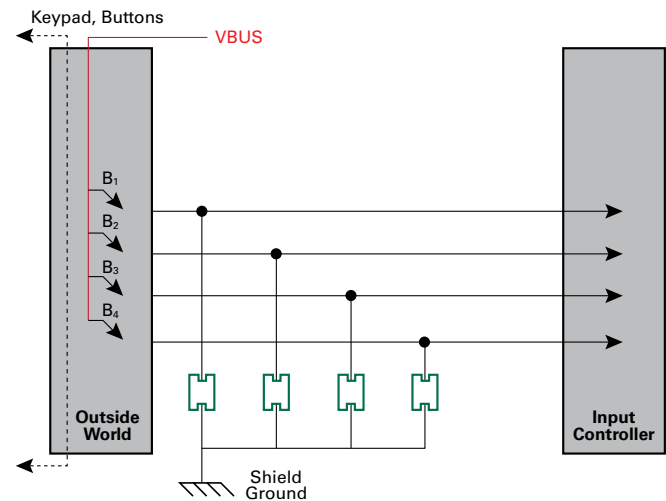
- Greater level of ESD protection and design flexibility for enclosure, button, and touch screen
- Wider voltage range for a broader variety of electronic devices
- Lower power consumption, ideal for battery powered devices, such as wearable devices, and energy-efficient devices
- Ideal for high-frequency & high-speed data, video, antenna, and I/O circuits
- Facilitates pick-and-place assembly and enables more compact circuit board designs



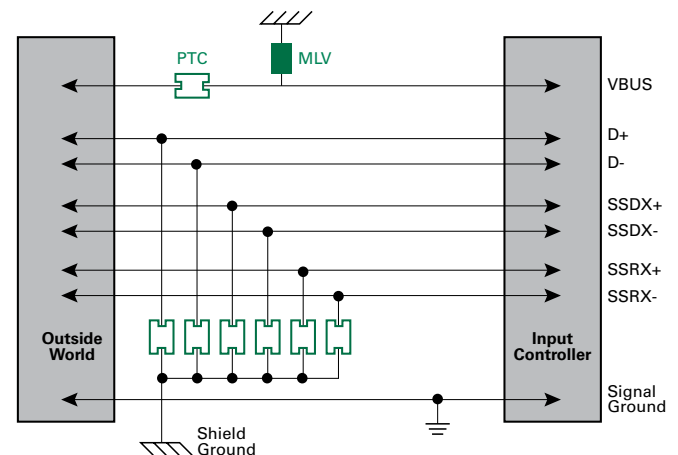
### Design Considerations

- Proper placement of the XGD series devices on the circuit board is a key design consideration in order to achieve optimal ESD suppression. It's best to place the XGD Series device:
  - As close to the source of the fast-rising ESD transient as possible, and
  - As close to the signal input as possible; ahead of any other component
- When serving as the first board-level circuit component encountered by ESD events, the XGD Series can safely absorb repetitive ESD strikes close to four times the maximum level specified in the IEC61000-4-2 international standard without performance degradation

### In Keypads, Buttons, and Touch Screen Circuits



### In HDMI 2.0, USB3.0, and Gigabit Ethernet Circuits



Electrical Characteristics	XGD10402	XGD10603
<b>ESD Capability</b> IEC61000-4-2 Contact Discharge IEC61000-4-2 Air Discharge	30kV Typical 30kV Typical	30kV Typical 30kV Typical
<b>Rated Voltage</b>	24V Max	32V Max
<b>Capacitance</b>	0.04pF	0.09pF
<b>Response Time</b>	<1nS	<1nS
<b>Leakage Current</b>	<1nA @ 24V	<1nA @ 24V