

TrEOS Protection: ESD protection without compromise

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ICs used for the smart, connected products of the Internet-of-Things must deliver maximum performance. They need to be optimized for high data bandwidth and hence support a number of high-speed interfaces. However, the ultra-small process technologies used to produce today's miniature semiconductors have the side-effect of making the ICs more vulnerable to ESD.

Able to safeguard high speed data lines and sensitive system chips, our new TrEOS Protection family provides the perfect solution for designers of the latest products. It delivers the ideal combination of low capacitance, low clamping and high ESD robustness. The TrEOS protection devices are the only ones with benchmark performance in all three key parameters.

Ready for the 10 Gbit/s standard (USB3.1) & HDMI 2.0, TrEOS Protection devices are ideal for a wide range of applications including portable and wearable systems.

Multi-line devices

Multi-line devices PUSB3FR4, PUSB3FR6 and PUSB3AB6 come with a dynamic resistance of only $0.27\ \Omega$ for outstanding system protection. The devices are housed in the small leadless DFN2510A-10 (SOT1176-1) and DFN2111-7 (SOT1358-1) plastic packages that are designed for pass-through routing which optimizes signal integrity and simplifies board layout.

Single-line devices

Single-line devices include bi-directional (PESD5V0R1BSF, PESD5V0H1BSF, PESD5V0C1BSF) and uni-directional (PESD5V0C1USF) types. They come in the very small 0201 form factor (DSN0603-2), excellent for space-constrained applications such as smartphones, tablets and other portable systems.

Datasheets

For information and datasheets on the TrEOS family, use the following link:

[TrEOS Protection family](#)

Key features and benefits

Signal integrity up to the SuperSpeed 10 Gbps standard thanks to ultra low capacitance down to $0.10\ \text{pF}$ typ.

Ultra low dynamical resistance down to $0.10\ \Omega$ typ. for extremely low clamping voltages safeguarding sensitive SoCs

High ESD robustness up to 20 kV contact discharge, exceeding IEC 61000-4-2, level 4

High surge robustness up to 9 A (8/20 μs pulse IEC61000-4-5)

Related links

[Datasheets, parametrics and order information](#)

[Product leaflet](#)

For more information on TrEOS Protection check out this short video

[TrEOS Protection launch video](#)

