

HIGH VOLTAGE ESD

TSMC PROCESSES



High Voltage ESD Devices Optimized for a wide range for TSMC processes from 180nm down to 28nm.

FEATURES

High Voltage

10V, 15V or even 20-50V ESD available
Negative ranges < -5V, -10V or -18V

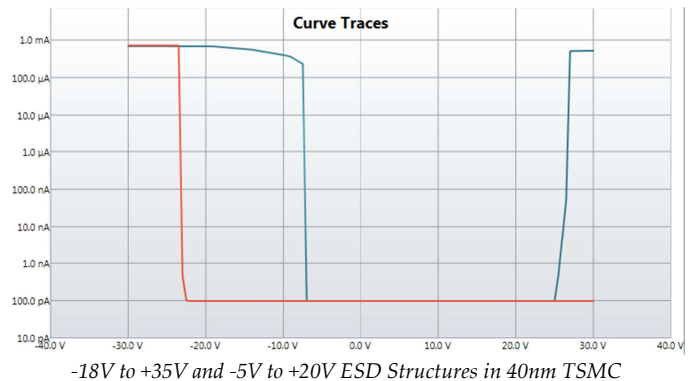
ESD compliance is adjustable

2kV to 8kV HBM
2kV IEC feasible
>500V CDM
>200V MM

Low Leakage

Most High voltage structures leak very little current
Pico-Nano Amp specs possible

Latch-Up resistant



SUMMARY

Certus Semiconductor has acquired a special expertise in creating very unique High Voltage ESD structures in TSMC processes. This allows for easy integration of higher voltage applications such as charge pumps, high power RF, Power Management, MEMS or medical applications to integrate with TSMC's low voltage CMOS processes. Working with a customer's product application, we have extensive experience in crafting for them high voltage ESD protection solutions, suited to their needs. We have successfully built variants of these structures in every TSMC process between 180nm and 28nm.

MODELS and SUPPORT FILES

GDS Layouts

Schematics models for functional simulation

Functional models in behavioral Verilog with timing arcs.

It should be noted that most of these structures will not DRC/LVS properly and as such require careful usage.

FRONT-END DEVICES

We only work with standard base and deep-nwell layers, no additional special mask or implants (ESD for example) required.

VARIANTS

Every design is a unique variant. Rarely do two customer need the same exact performance specs.

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