

For USB Connection Data Interface Best suited for USB transmission line protection

Noise Clamp Device / ESD Diode

Low-current area, low-voltage overshoot clamp / high-speed data line protection.

1 device can realize overshoot & undershoot clamp

Noise clamp device

VS002E4

VS003E4

Under development

Best suited for high-speed data line protection

ESD Diode

VS908SL

Under development

VS909SL

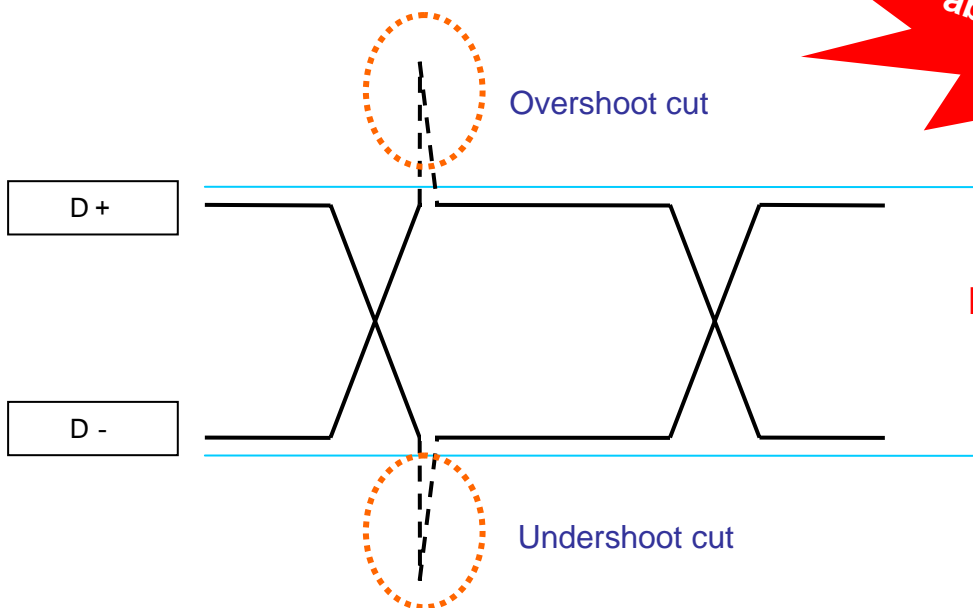
Under development



Low capacitance, can be used for signal line!
Small package

Noise Clamp, Overshoot/Undershoot Cut Function

USB Eye Pattern Noise Clamp



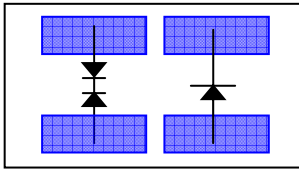
Differential signals abnormal waveform clamp

Data transmission errors reduction

Signal line transmission data waveform rectification!

Features of Noise Clamp Device

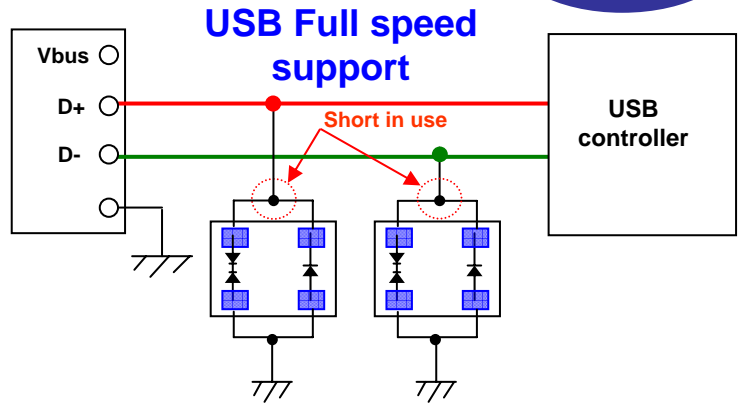
【VS002E4】



VR max 4.0V (at 1mA)
 VF max 0.35V (at 1mA)
 C typ 16.0pF(0V/1MHz)

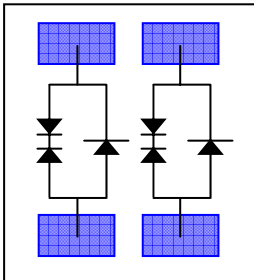
- Small surface mount package
 0.8×1.6×0.6 mm (typ)

Application Example



【VS003E4】

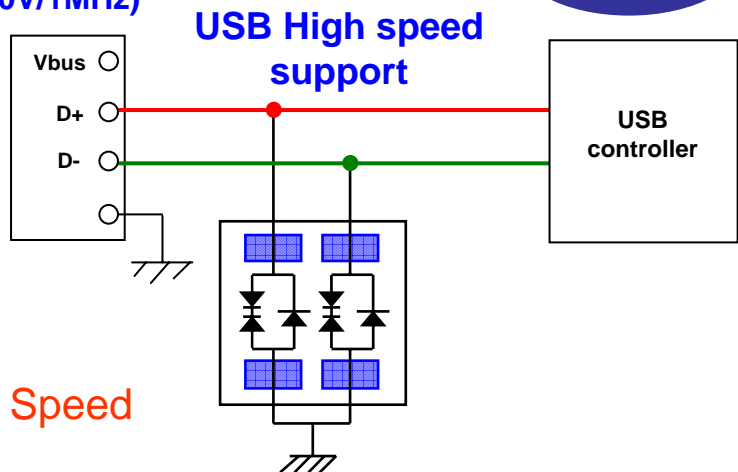
Under-development



VR max 4.5V (at 1mA)
 VF max 0.65V (at 1mA)
 C max 3.2pF(0V/1MHz)

- Small surface mount package
 0.8×1.0×0.6 mm (typ)

Application Example



Low capacitance,
 best suited for USB High Speed

Features of ESD Diode

C max 0.6pF(0V/1GHz)
 ESD 20kV(IEC61000-4-2 contact)
 VR 6.0V(IR=1mA)

【VS908SL】

Under-development

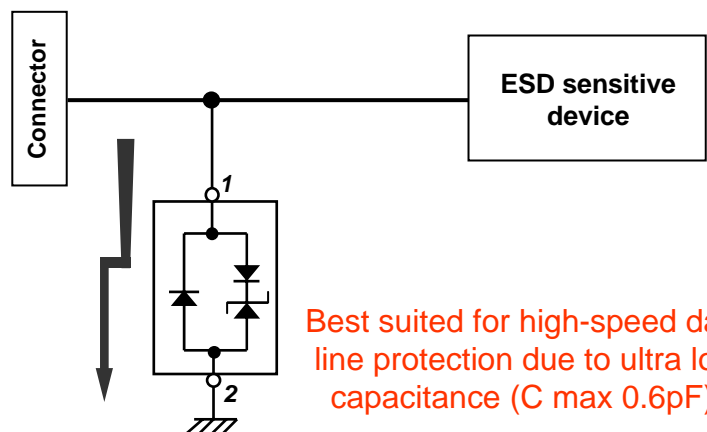
Small package:
 0.62×0.32×0.31 mm (typ)

【VS909SL】

Under-development

Small package:
 1.0×0.6×0.39 mm (typ)

VS908SL / VS909SL Use Example



Best suited for high-speed data line protection due to ultra low capacitance (C max 0.6pF).