

I²C Noise Glitch Filtering

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Digital Audio/Video

To provide glitch noise immunity to a device that does not have I²C glitch filters, or to increase the glitch immunity of a device that has glitch filters, the circuit shown in Figure 1 can be used.

Glitch filtering is provided by a ferrite bead that is rated 1000 Ω at 100 MHz. One bead on each I²C line placed close to the device protects the device from 3.3-V noise glitches that are up to 15 ns in duration. Two beads placed in series protect the device from glitches up to 25 ns.

When this circuit is employed with a device that has I²C glitch filtering, the circuit extends the glitch tolerance of the device. For example, if two ferrite beads are added to the I²C lines of a device that has 25 ns of I²C glitch protection, then the resulting performance is approximately the sum of the two, or 50 ns.

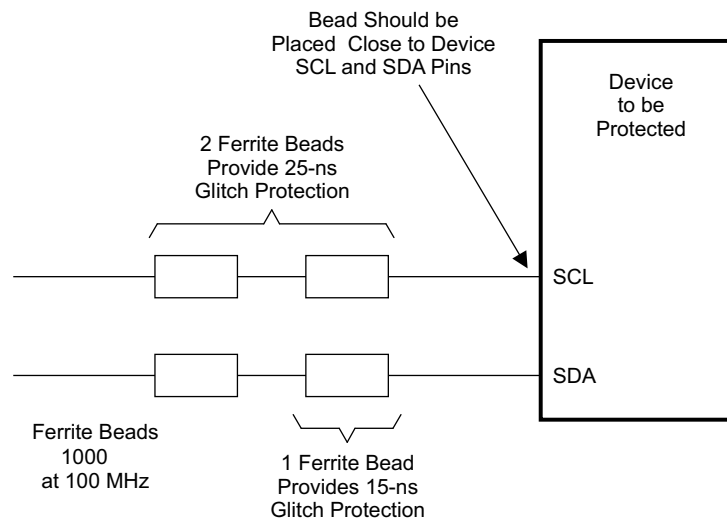


Figure 1. Glitch Filter Circuit

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