

1.2 μ s Rise-Time Filter ORTF-1200

Advanced TLP/HMM/HBM Solutions

1 Features

- 50 Ω rise-time filter for TLP measurements
- 1.2 μ s ($\pm 10\%$) rise-time
- 32 A pulse current
- 2.5 kV
- SMA connectors

2 Description

The rise time filter is used to generate a pulse rise-time of 1.2 μ s at the output of the filter. The filter can be connected directly at the pulse output of the high voltage pulse generator.

The rise-time of the pulse at the input of the filter should be set to ≤ 50 ns. The filter is fully symmetrical. Input and output can be exchanged.

3 Electrical Characteristics

Fig. 1 shows the step response of the ORTF-1200. The related frequency response and the return loss is presented in Fig. 2 and Fig. 3, respectively.

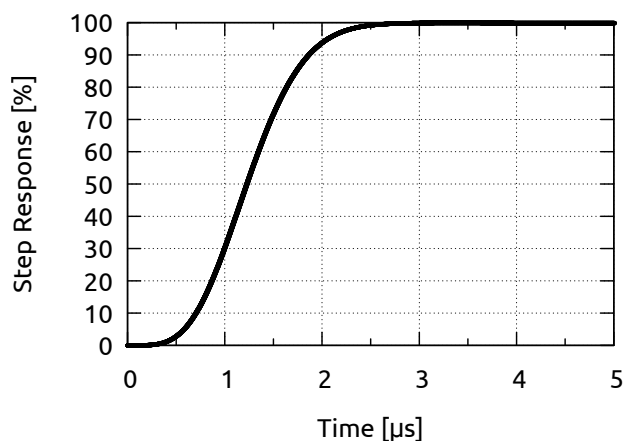


Figure 1: Typical step response

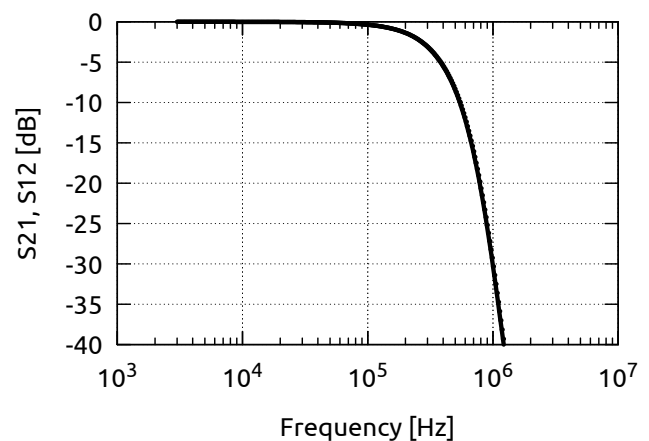


Figure 2: Typical frequency response

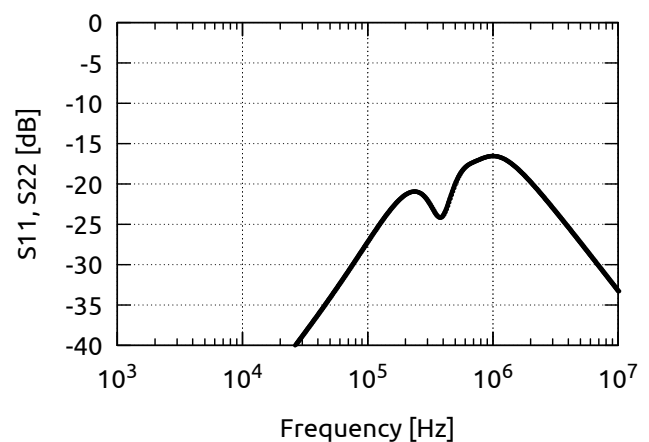


Figure 3: Typical return loss

4 Application Notes

Fig. 4 shows the output signal of the rise-time filter at 1.5 μ s input pulse width, e.g. using the TLP-3011C. Please note that the voltage peak reaches about 90 %

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at the rising edge and immediately turns to the falling edge afterwards. Using the TLP-8012A5 instead, including the 2.35 μs -option, results in an output signal close to 100 %, as presented in Fig. 5.

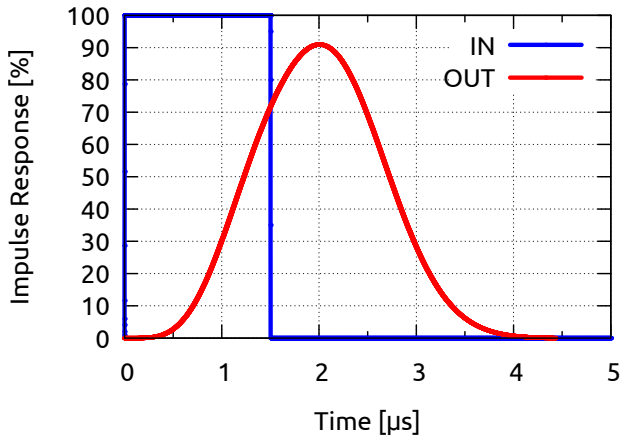


Figure 4: Output signal of the rise-time filter at 1.5 μs input pulse width using TLP-3011C

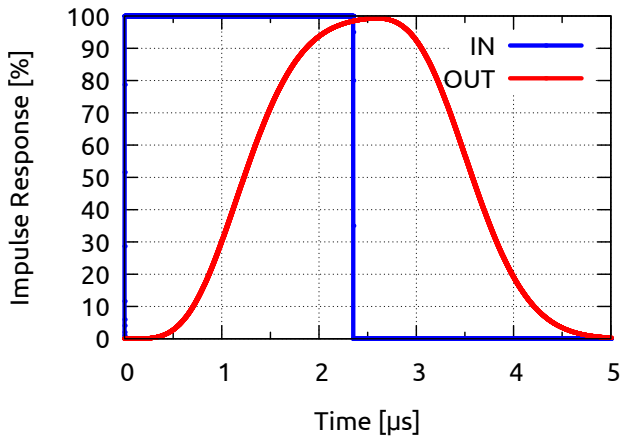


Figure 5: Output signal of the rise-time filter at 2.35 μs input pulse width using TLP-8012A5 (2.35 μs -option)

4.1 Laboratory Safety Requirement

Interlock operation at >500 ns pulse width using a TLP-8010C/TLP-8012A5 system is needed to avoid life-endangerment risks.

5 Physical Dimensions

On the bottom side the enclosure has two M4 threads and two dowel holes for fixation.

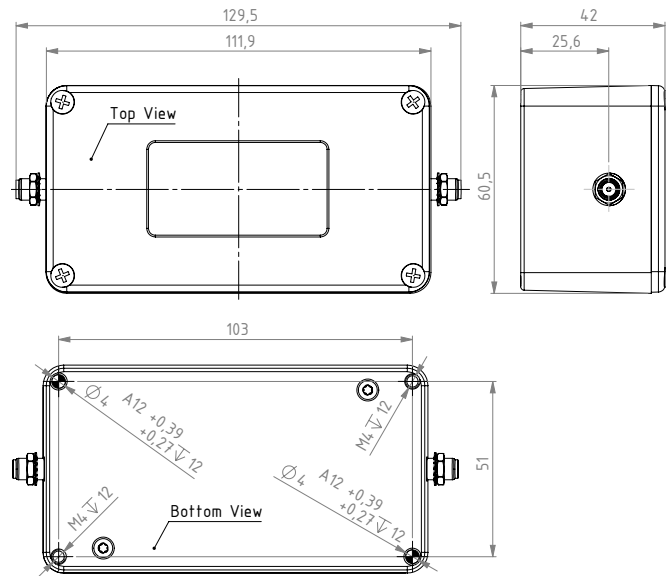


Figure 6: Physical dimensions in [mm]

6 Ordering Information

Pos.	Description	Part No.
01	1.2 μs Rise-Time Filter	ORTF-1200

General

The product data contained in this data-sheet is exclusively intended for technically trained staff. You and your technical departments will have to evaluate the suitability of the product for the intended application and the completeness of the product data with respect to such application. Our products are solely intended to be commercially used internally and should not be sold to consumers. This data-sheet is describing the specifications of our products for which a warranty is being granted by HPPI GmbH. Any such warranty is granted exclusively pursuant the terms and conditions of the respective supply agreement. There will be no guarantee of any kind for the product and its specifications. For further information on technology, specific applications of our product, delivery terms, conditions and prices please contact HPPI:

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