1.2 μs Rise-Time Filter  **ORTF-1200**

Advanced TLP/HMM/HBM Solutions

1 **Features**

- 50 Ω rise-time filter for TLP measurements
- 1.2 μs (±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 μs 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.

![Step Response](image)

**Figure 1: Typical step response**

![Frequency Response](image)

**Figure 2: Typical frequency response**

![Return Loss](image)

**Figure 3: Typical return loss**

4 **Application Notes**

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

Datasheet
Rev. 1.4
November 19, 2019

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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.

5 Physical Dimensions

Figure 6: Physical dimensions in [mm]

6 Ordering Information

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<th>Pos.</th>
<th>Description</th>
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<td>01</td>
<td>1.2 µs Rise-Time Filter ORTF</td>
<td>ORTF-1200</td>
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General

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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.