

# 30 kHz – 4 GHz, 10 A, 250 V High Current Bias Tee BT-10250A

Advanced TLP/HMM/HBM Solutions



## 1 Features

- High current 30 kHz – 4 GHz (–1 dB) bias tee
- Suitable for 80 A TLP, VF-TLP and HMM
- DC input bias current: max. 2 A DC and max. 10 A DC pulsed at 100 ms pulse width and 1 % duty cycle
- Up to 250 V bias voltage at DC input
- Typ. 0.4 Ω DC resistance (port 3 to port 2)
- 50 Ω pulse input and 50 Ω DC/pulse output
- BNC DC input
- Size: 112 mm x 60.5 mm x 31 mm
- **Lab safety requirement: interlock operation above an operation voltage of 40V needed to avoid life-endangerment risks**

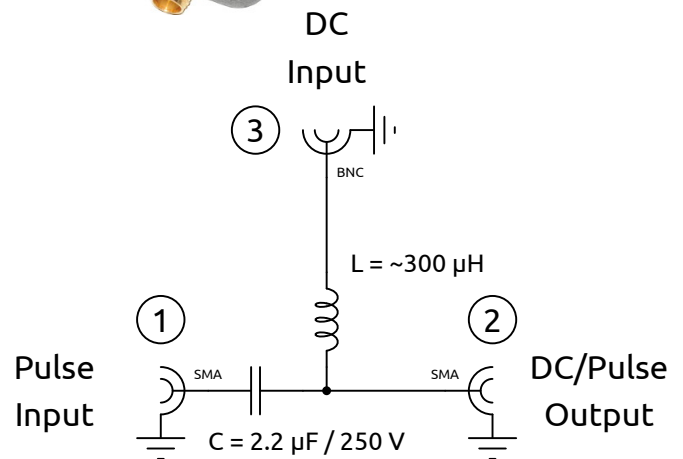


Figure 1: Schematic diagram

## 2 Description

The BT-10250A is used for DC biased TLP or VF-TLP measurements. The DC voltage or current is applied to the DC input (port 3). The TLP output (pulse force) is connected to the pulse input (port 1). The DUT or DUT pulse force line is connected to the DC/pulse output (port 2). The BT-10250A features a very low cut-off frequency of 30 kHz and high bandwidth of 4 GHz (–1 dB). Fig. 1 shows the schematic diagram. Due to the high values of L and C the stability of the SMU control loop must be investigated.

### 2.1 Electrical Characteristics

Fig. 2 shows the typical impulse response from port 1 to port 2, measured with 100 ps input rise time. The time delay of the output signal has been deskewed in the output plot of Fig. 2. In Fig. 3 the typical insertion loss from port 1 to port 2 is shown.

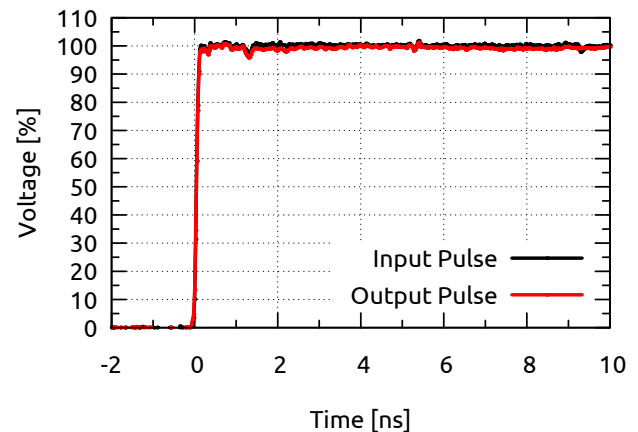


Figure 2: Typical measured impulse response of the bias tee from pulse input (port 1) to pulse output (port 2).

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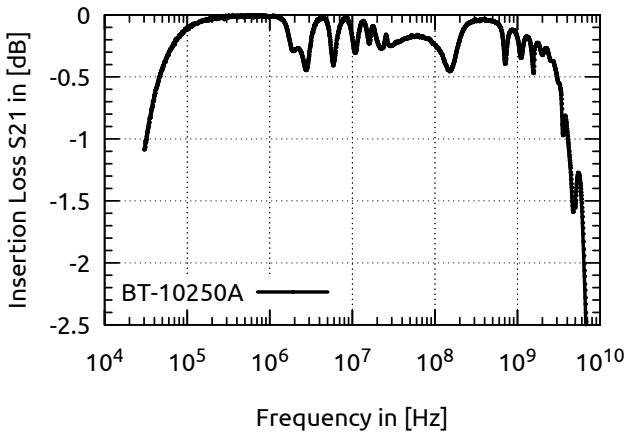


Figure 3: Typical insertion loss: pulse input to DC/pulse output in [dB]. Measurement condition: DC input port 3 short circuit to GND.

## 3 Ordering Information

Pos.	Description	Part No.
01	30 kHz – 4 GHz, 10 A, 250 V High Current Bias Tee	BT-10250A

### 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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Due to technical requirements our products and/or their application may be harmful. For information please read carefully the manual or contact HPPI. Safety notes in the manual will inform you about possible risks that result from any foreseeable application of our products. Changes of this data-sheet are reserved.

## 2.2 Laboratory Safety Requirement

Interlock operation above an operation voltage of 40V needed to avoid life-endangerment risks.

## Physical Dimensions

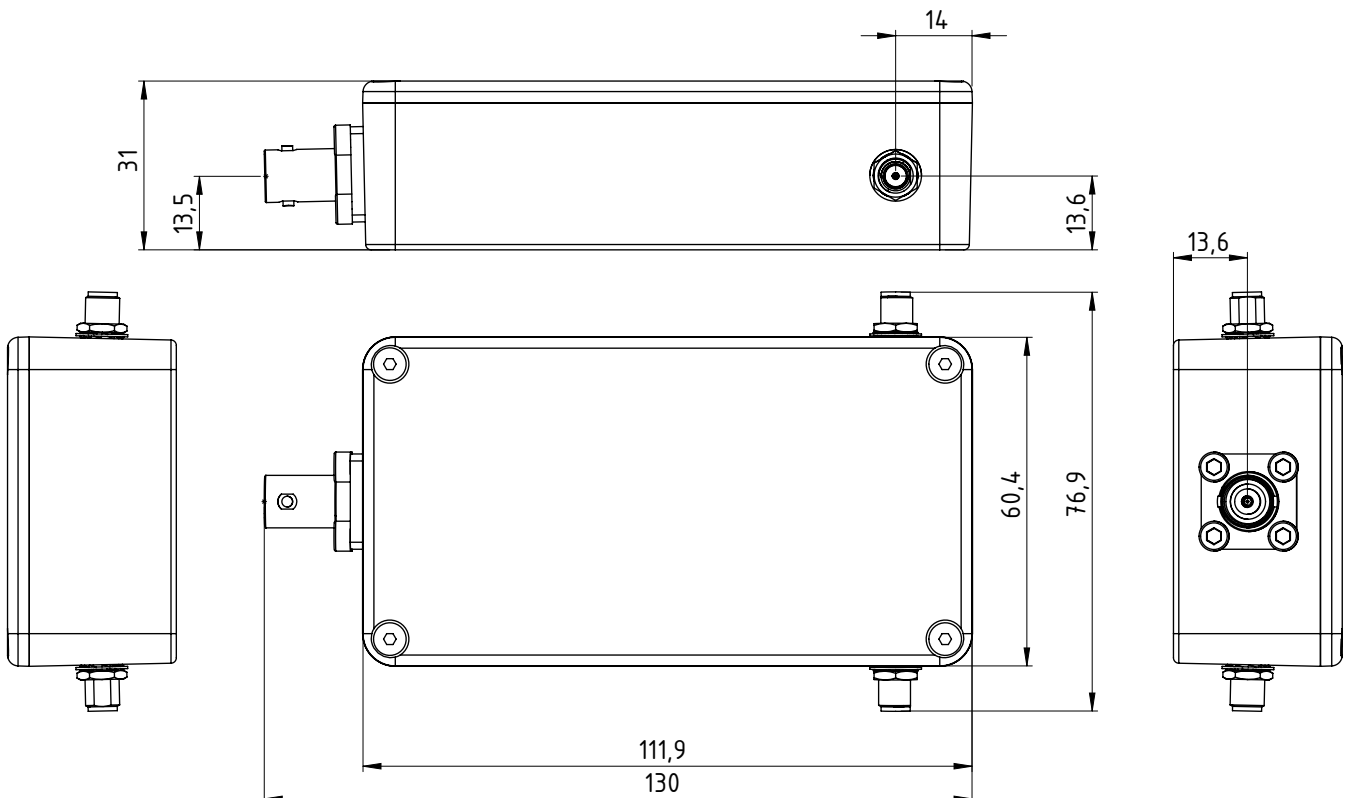


Figure 4: Physical dimensions of the BT-10250A in [mm]