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 40 V needed to avoid life-endangerment risks

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

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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.

2.2 Laboratory Safety Requirement

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

Physical Dimensions

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

3 Ordering Information

<table>
<thead>
<tr>
<th>Pos.</th>
<th>Description</th>
<th>Part No.</th>
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<td>01</td>
<td>30 kHz – 4 GHz, 10 A, 250 V High Current Bias Tee</td>
<td>BT-10250A</td>
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General

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