



TEKBOX TBJT01 Injection Transformer Installation Guide

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Introduction

The TBJT01 is a wideband injection transformer for control loop stability measurements. It provides galvanic isolation between the swept signal source and the control loop. The injection transformer is internally terminated with a 5 Ohm resistor and protected with a 100 mA fuse. The usable frequency range is 10 Hz to 45 MHz.

Picture 1: TBJT01 injection transformer

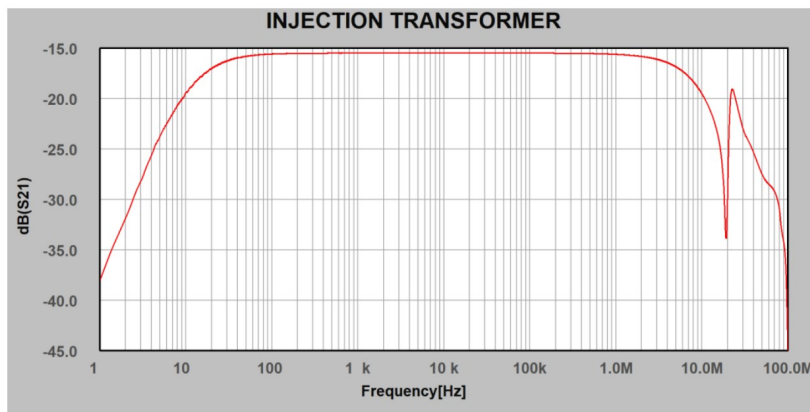


Specification

- **Compliance:** RoHS
- **Termination resistor:** 5 Ω
- **Fuse:** 100 mA (Littlefuse 0451.100MRL); secondary (output) side
- **Turns ratio:** 1:1
- **Characterized freq. range:** 1 Hz to 100 MHz
- **Usable frequency range:** 10 Hz – 45 MHz
- **3 dB frequency range:** 15 Hz – 9 MHz typ.
- **Insertion loss (S21):** 15.5 dB typ.
- **Capacitance:** 90 pF @ 1 KHz; primary to secondary winding
- **DC saturation current:** 12 mA
- **Max. voltage rating:** 600V CAT II; primary to secondary winding
- **Input connector:** 50 Ω BNC female,
- **Output connector:** 4 mm safety banana jacks, 20 mm spacing
- **Operating temp. range:** 0°C – 60°C
- **Enclosure dimensions:** 70 mm x 60 mm x 140 mm
- **Weight:** 250 g

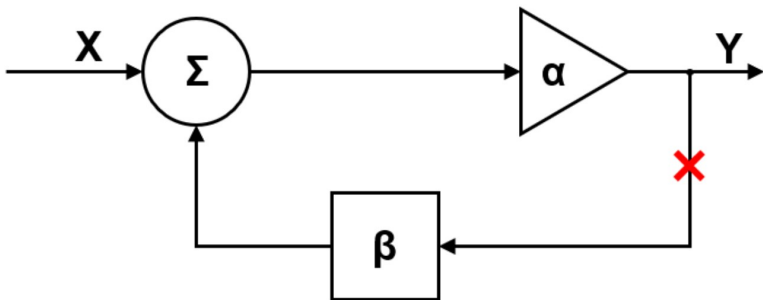
Frequency response

Figure 1: typical insertion loss

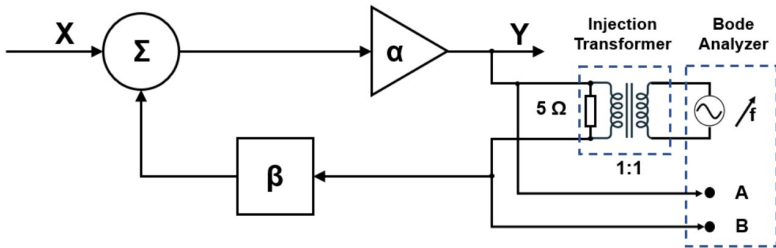


Application

The control loop is commonly broken at the point between the amplifier output and the input of the feedback network:



The isolation transformer is inserted into the control loop and connected to the BodeAnalyzer:



Ordering Information

Part Number	Description
TBJT01	10 Hz – 45 MHz injection transformer

History

Version	Date	Author	Changes
V 1.0	0 6.2.2023	Mayerhofer	Creation

www.tekbox.com

TekBox Digital Solutions Vietnam Pte. Ltd.

Factory 4, F4, Lot I-3B-1, Saigon Hi-Tech Park, Tan Phu Ward, District 9, Ho Chi Minh City, Vietnam

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References

-  [Tekbox Digital Solutions |](#)