50 Ω General Purpose VSWR Bridge

1 Introduction

The TBSWR-300K6000 VSWR - bridge is designed for general purpose forward / reverse power measurements. The bridge combines the wide frequency range and directivity of a directional bridge and the low insertion loss of a directional coupler.

The TBSWR-300K6000 is characterized in the frequency range from 300 kHz to 6 GHz. The low insertion loss allows inline RF power measurements, and a variety of other applications. The insertion loss over the frequency range is typically between 1.7 and 2.6 dB, which is significantly smaller than the average 7 dB associated with VSWR - bridges.

2 Typical data

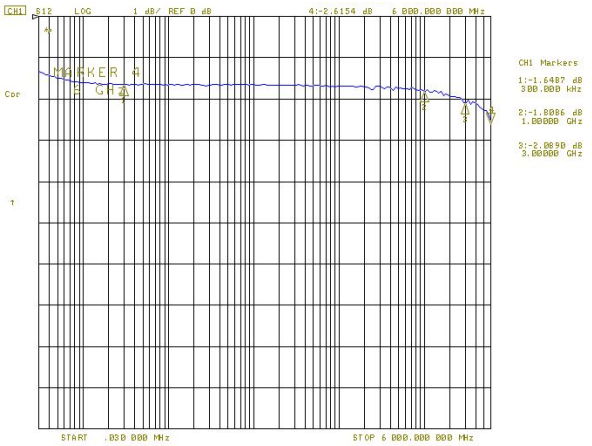
Characterized frequency range:	300 kHz – 6 GHz				
Directivity:	300 kHz – 700 kHz	> 25 dB	Coupling:	300 kHz – 3 GHz	-20 dB ± 1 dB
	700 kHz – 5 GHz	> 30 dB		3 GHz – 6 GHz	- 19 dB …-16 dB
	5 GHz – 6 GHz	> 20 dB			
Insertion loss:	300 kHz – 1 GHz	< 1.8 dB	Max. power:	300 kHz – 6 GHz	4 W CW *)
	1 GHz – 6 GHz	< 2.6 dB		*) Output shorted or open: max. 1 W	

Operating temperature range:	- 20 °C to + 40 °C
Impedance:	50 Ω
Port matching:	> 20 dB
RF connectors:	SMA-female
Dimensions:	170 mm x 40 mm x 32 mm
Weight:	280 g

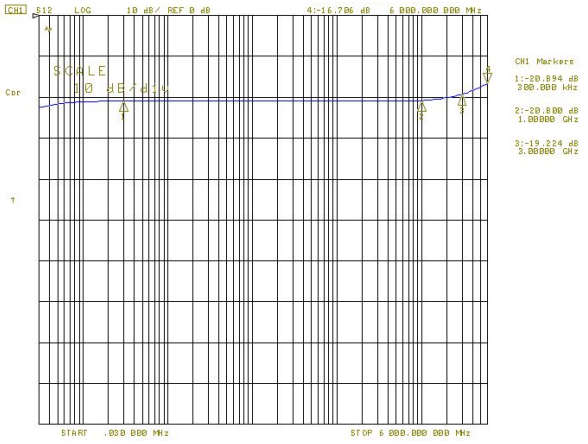
RoHS

50 Ω General Purpose VSWR Bridge

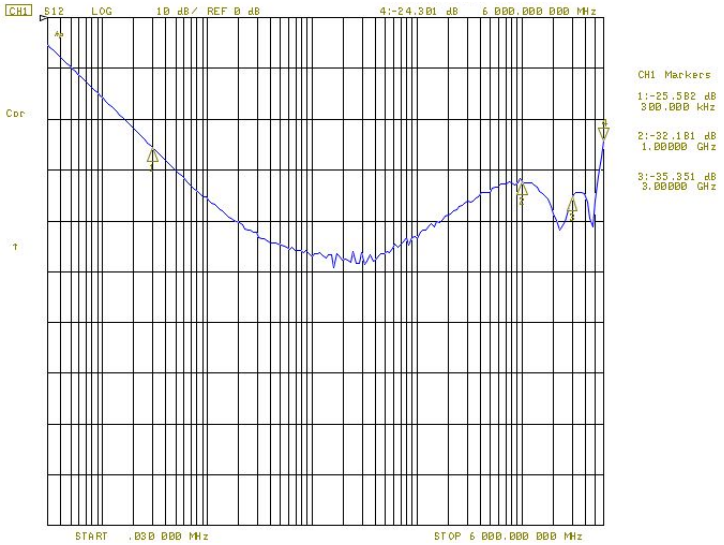
3 Measurement Plots



Insertion loss, 30kHz-6GHz

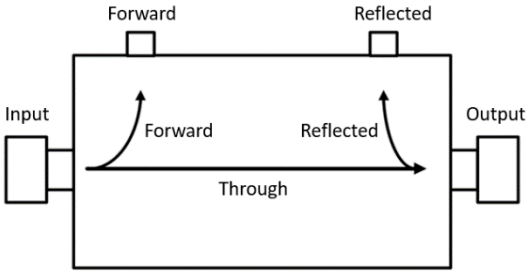


Coupling, 30kHz -6GHz



Directivity, 30kHz-6GHz

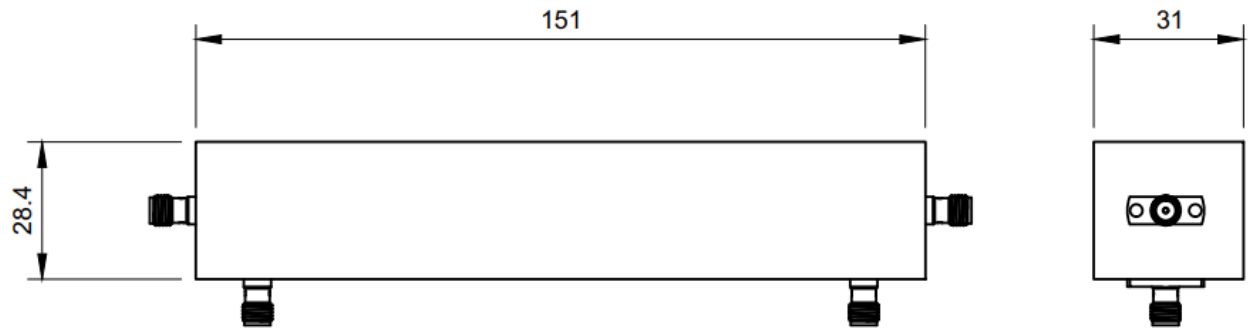
4 Operating principle



The ports Input/Output and Forward/Reflected can be exchanged. However, directivity may deviate from the documented values.

50 Ω General Purpose VSWR Bridge

5 Mechanical Drawing



6 Ordering Information

Part Number	Description
TBSWR-300K6000	VSWR – Bridge, 300 kHz – 6 GHz, wooden box

7 History

Version	Date	Author	Changes
V1.0	20.11.2023	Mayerhofer	Creation of the document

TekBox Digital Solutions Vietnam Pte. Ltd. www.tekbox.com
Factory 4, F4, Lot I-3B-1, Saigon Hi-Tech Park, Tan Phu Ward, District 9, Ho Chi Minh City, Vietnam