SHF Communication Technologies AG

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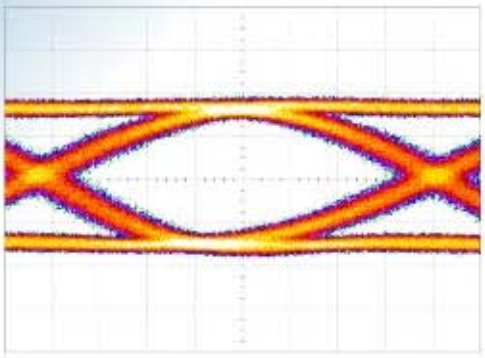
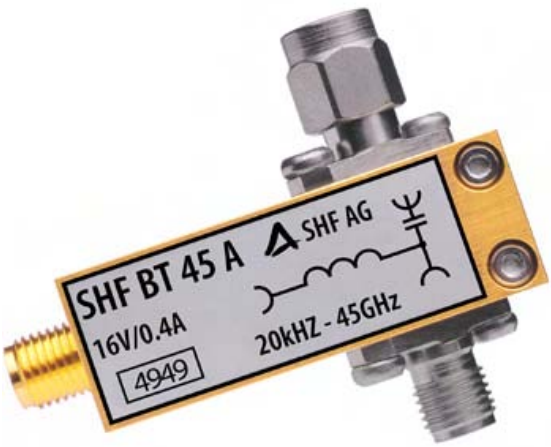


Datasheet

SHF BT45

Broadband Bias Tee



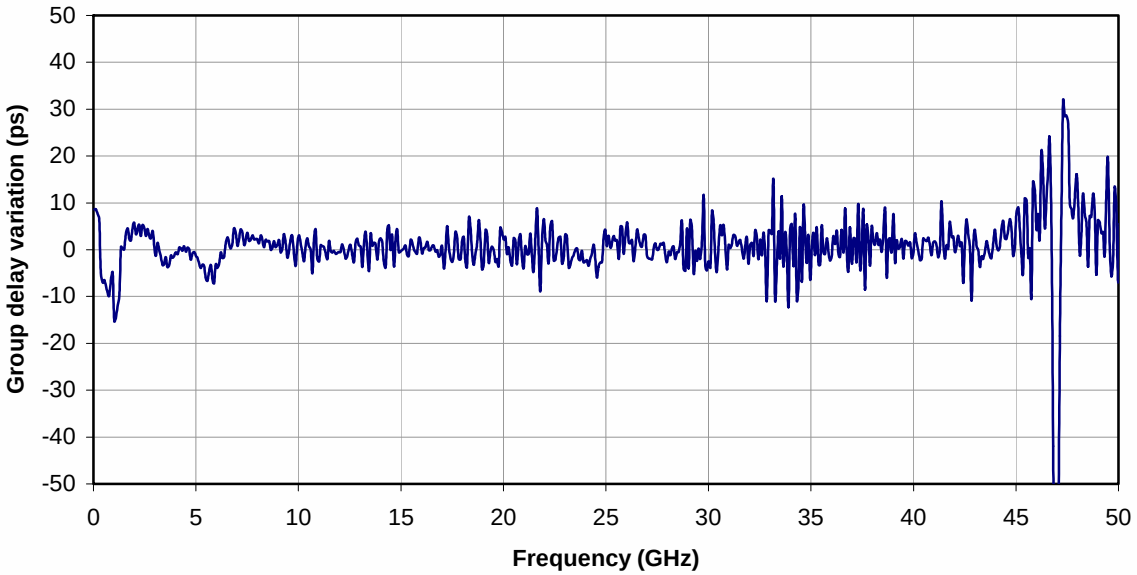
Resonance free transmission performance from 20 kHz to over 45 GHz
Innovative construction – Patent pending

Specifications – SHF BT45

Parameter	Symbol	Unit	Min	Typ	Max	Conditions
High frequency 3 dB point	f_{HIGH}	GHz	45			
Low frequency 3 dB point *	f_{LOW}	kHz			20	at 0.4 A
Insertion loss	S_{21}	dB			1.5	<40 GHz
Input return loss	S_{11}	dB			-17 -15 -10	>40 MHz <15 GHz <20 GHz <45 GHz
Isolation		dB			-40	
Maximum input power	P_{max}	dBm			30	
Rise time/fall time	t_r/t_f	ps			5	20…80%
Bias voltage *	V_{bias}	V			16	0.4 A *
Input connector						K (2.9 mm)
Output connector						K (2.9 mm)
Dimensions		mm				40x13x12.6

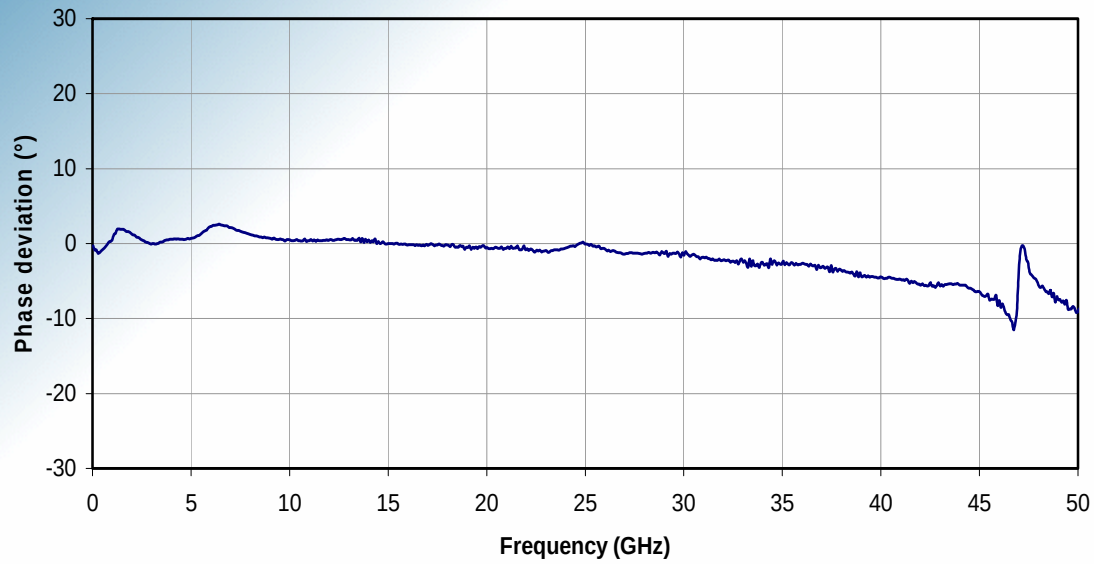
* High current and high voltage bias tees are also available – this affects the f_{LOW} value.

Group delay

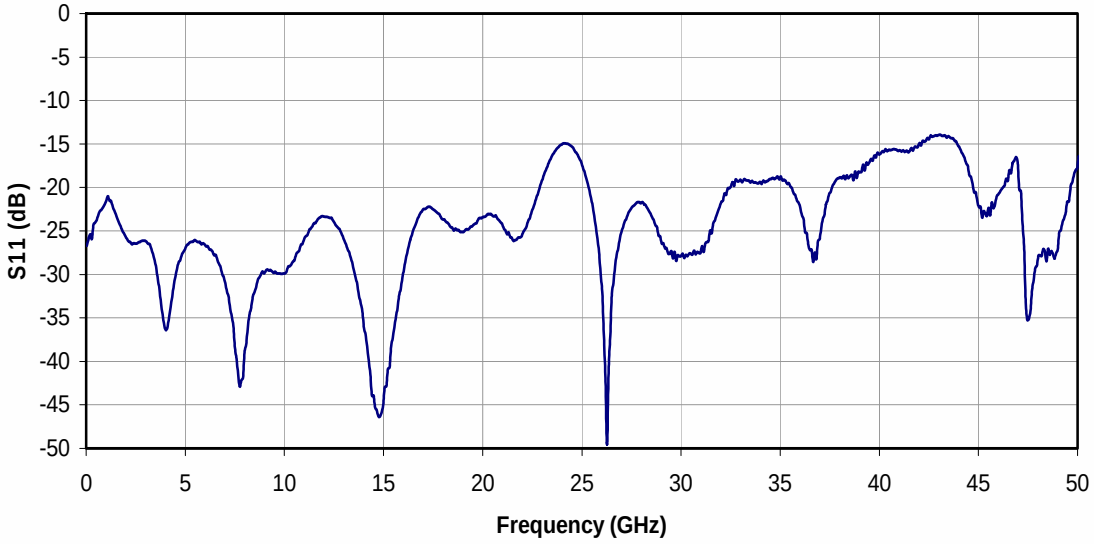


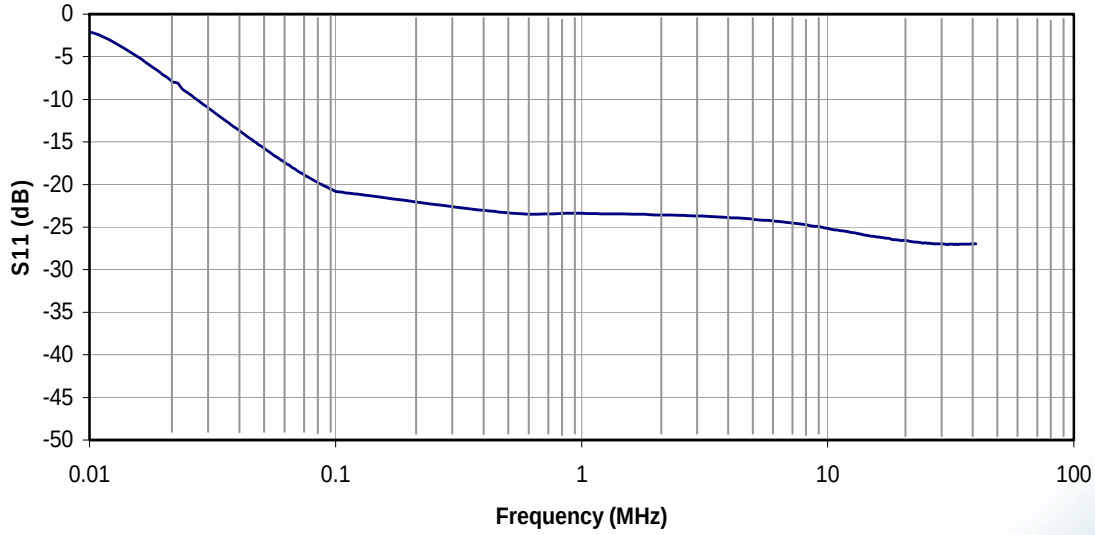
Aperture of group delay measurement: 81 MHz

Phase response



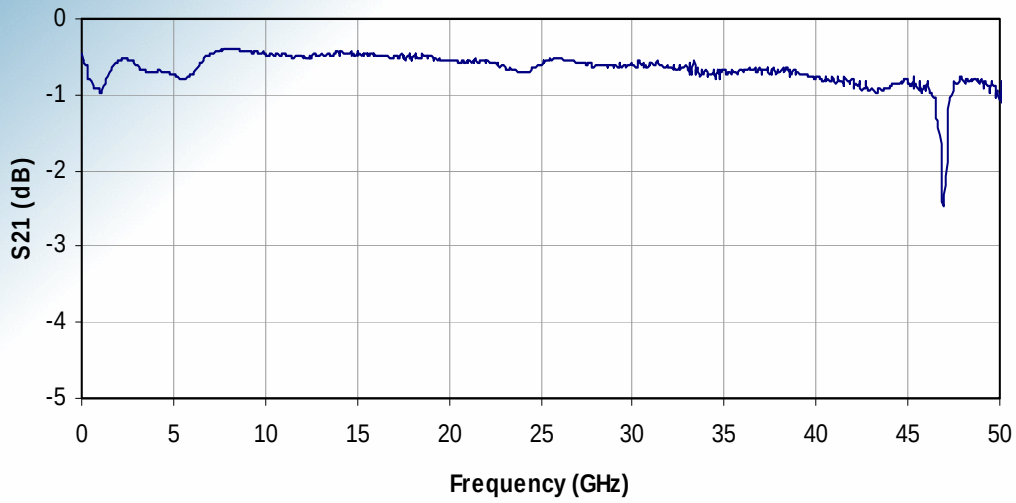
Input return loss

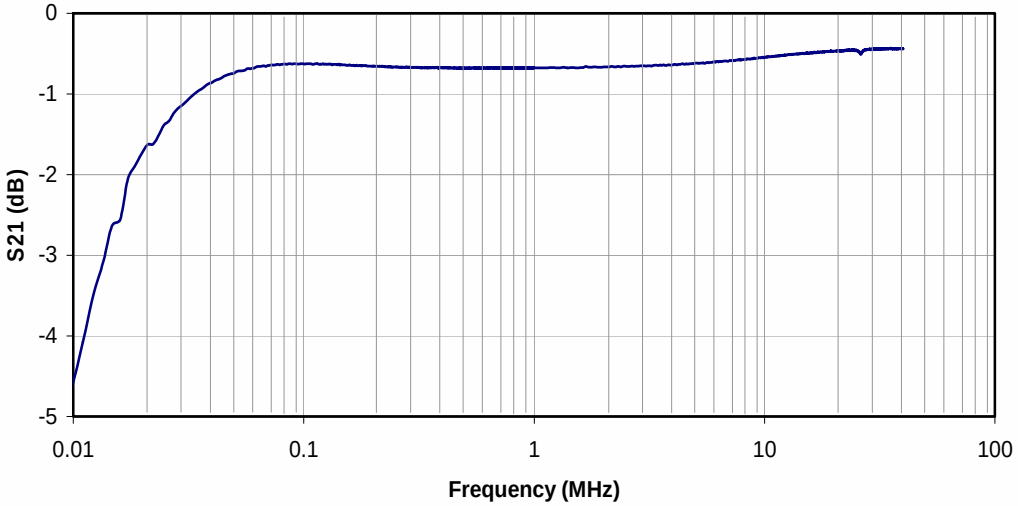




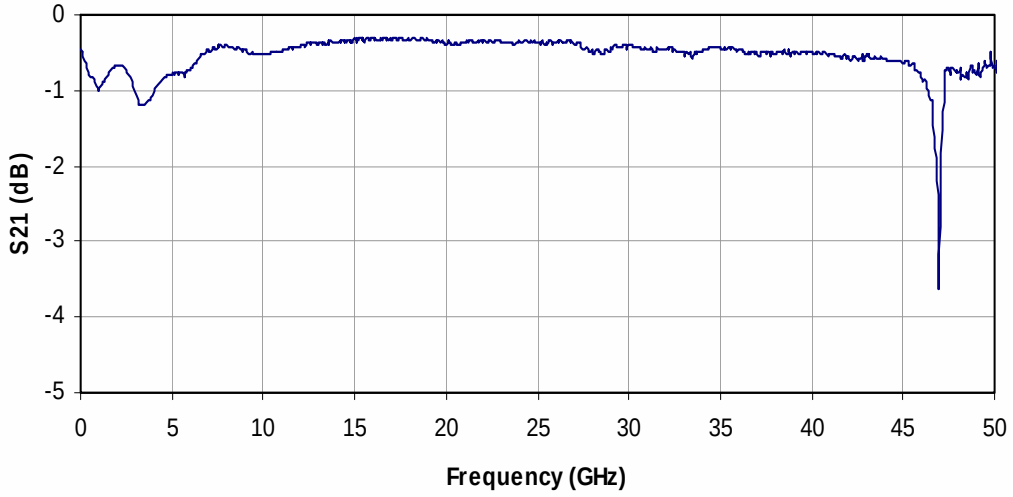
Insertion loss

Standard version



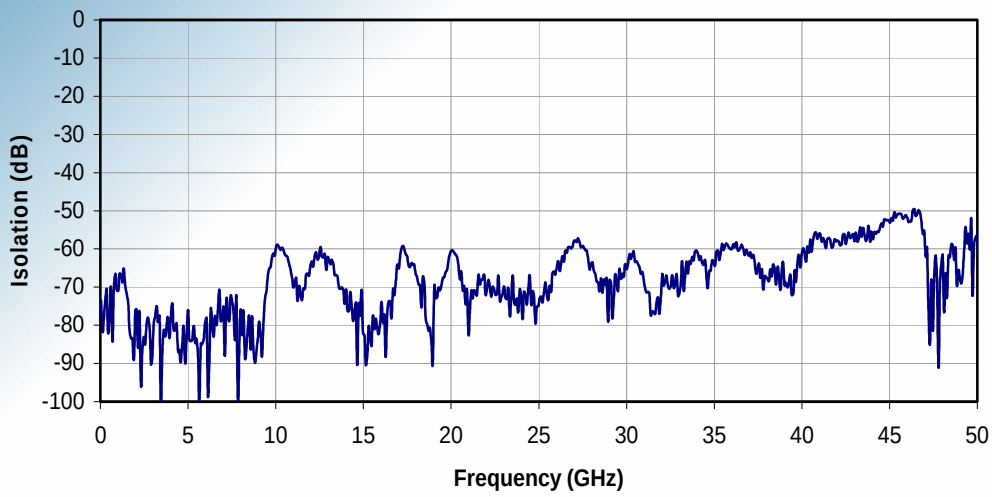


High current / high voltage options



The spike at 47GHz is due to moding of the K connectors

Isolation



Measured between DC port and HF port.

Options

The following options are available for the BT45. The table provides a summary of all options.

HV100
Maximum bias voltage: 100 V
Maximum bias current: 400 mA
Low frequency 3dB point: 400 kHz

HV200
Maximum bias voltage: 200 V
Maximum bias current: 400 mA
Low frequency 3dB point: 2 MHz

HVC100/1000
Maximum bias voltage: 100 V
Maximum bias current: 1 A
Low frequency 3dB point: 300 MHz

HC600
Maximum bias voltage: 16 V
Maximum bias current: 600 mA
Low frequency 3dB point: 1 MHz

HC1000
Maximum bias voltage: 16 V
Maximum bias current: 1 A
Low frequency 3dB point: 300 MHz

HC2000
Maximum bias voltage: 16 V
Maximum bias current: 2 A
Low frequency 3dB point: 1 GHz

I / U	400mA	600mA	1A	2A
16V	 f_L = 20 kHz	 f_L = 1 MHz	 f_L = 300 MHz	 f_L = 1 GHz
100V	 f_L = 400 kHz		 f_L = 300 MHz	
200V	 f_L = 2 MHz			

Outline diagram

Applications

Optical Communications

Research and Development

High-Speed Pulse Experiments

Data Transmission

The following combinations of connectors are available.

Please specify with your order.