

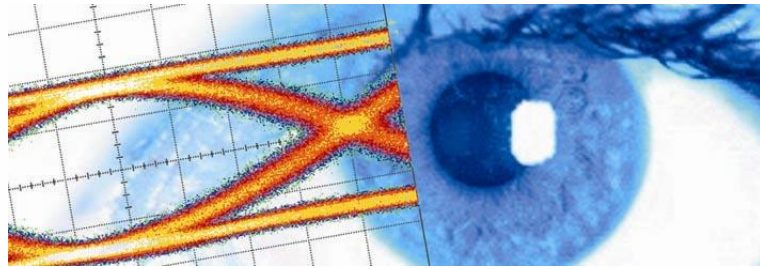


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Datasheet

SHF DCB45R

Broadband DC-Block





Description

The SHF DCB45R is a compact, high performance DC-Block with a small footprint and a bandwidth of more than 45 GHz. It is the RoHS compliant successor of the SHF DCB45.

Applications

- Optical Communications
- High-Speed Pulse Experiments
- Satellite Communications
- Research and Development
- Antenna Measurements
- Data Transmission

Configurations

- A - 2.92mm male to 2.92mm female
- B - 2.92mm female to 2.92mm female
- C - 2.92mm male to 2.92mm male

Options

- HV100 - High Voltage (100 V DC)
- HV200 - High Voltage (200 V DC)



Specifications - SHF DCB45R

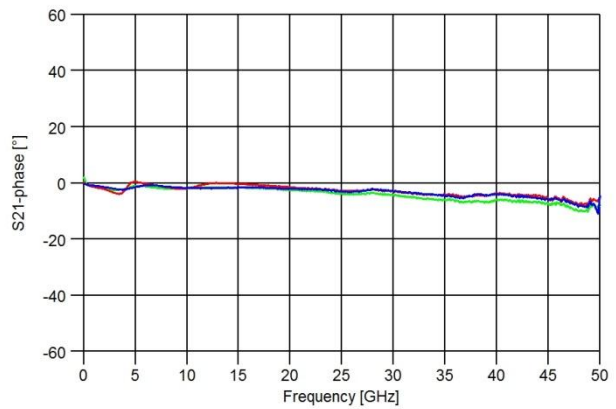
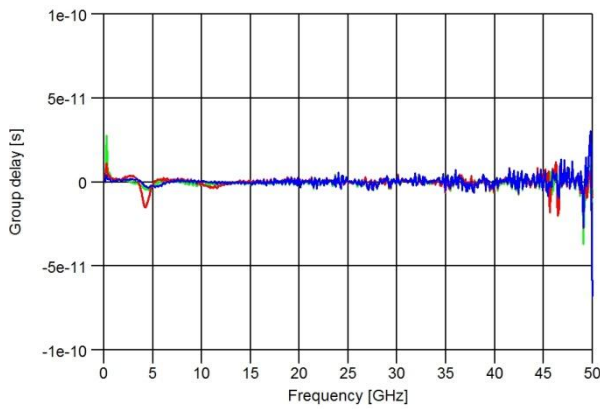
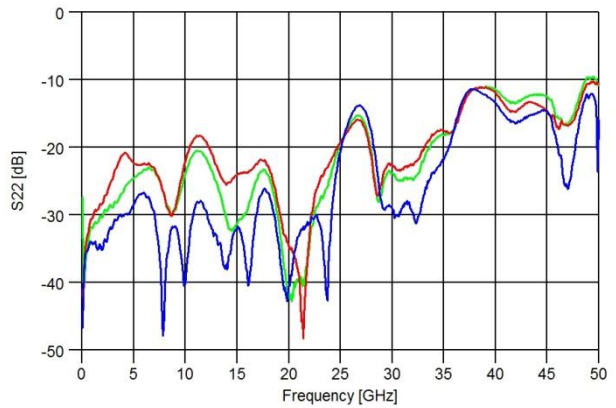
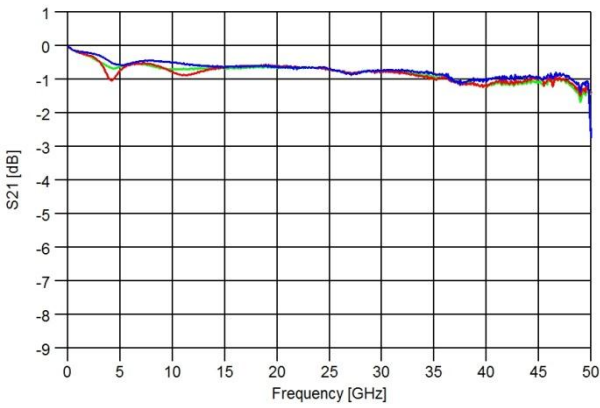
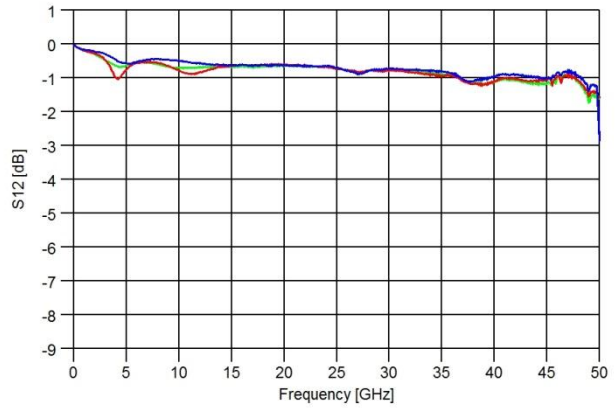
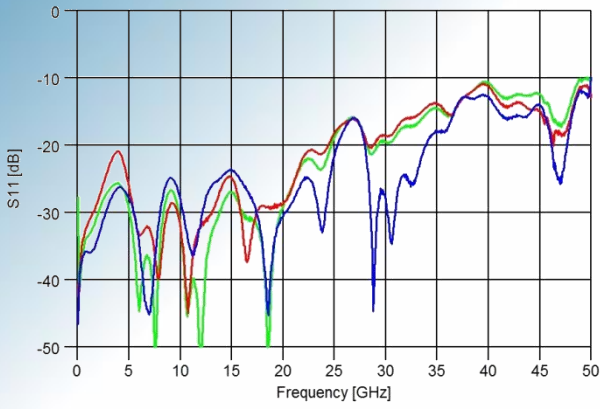
Parameter	Unit	Symbol	Min	Typ	Max	Conditions
Absolute Maximum Ratings						
Maximum RF Input	dBm V	$P_{in\ max}$			30 20	peak to peak voltage
DC Voltage W/o option	V				25	difference between both ports
DC Voltage Opt. HV100	V				100	difference between both ports
DC Voltage Opt. HV200	V				200	difference between both ports
Case Temperature	T_{case}	°C	10	25	50	

Parameter	Unit	Symbol	Min	Typ	Max	Conditions
Electrical Characteristics (At 25°C case temperature, unless otherwise specified)						
High Frequency 3 dB Point	GHz	f_{HIGH}	45			
Low Frequency 3 dB Point W/o option	kHz	f_{LOW}		5 15	10 30	with 1 V _{DC} applied with 25 V _{DC} applied
Low Frequency 3 dB Point Opt. HV100	MHz	f_{LOW}		0.4 0.6	0.45 0.7	with 1 V _{DC} applied with 100 V _{DC} applied
Low Frequency 3 dB Point Opt. HV200	MHz	f_{LOW}		1.8 3.5	2 3.8	with 1 V _{DC} applied with 200 V _{DC} applied
Insertion loss	dB	S_{21}		1	1.5	< 45 GHz
Input Reflection	dB	S_{11}		-18 -10	-15 -9	< 25 GHz < 45 GHz
Rise Time/Fall Time	ps	t_r/t_f			5	20%...80%
Group Delay Ripple	ps				±50	40 MHz...45 GHz, 100 MHz aperture
Mechanical Characteristics						
Connector						2.92mm (K)
Dimensions	mm					17x7x10



Typical S-Parameters and Group Delay

W/o option: blue ; Option HV100: red ; Option HV200: green



Aperture of group delay measurement: 100 MHz

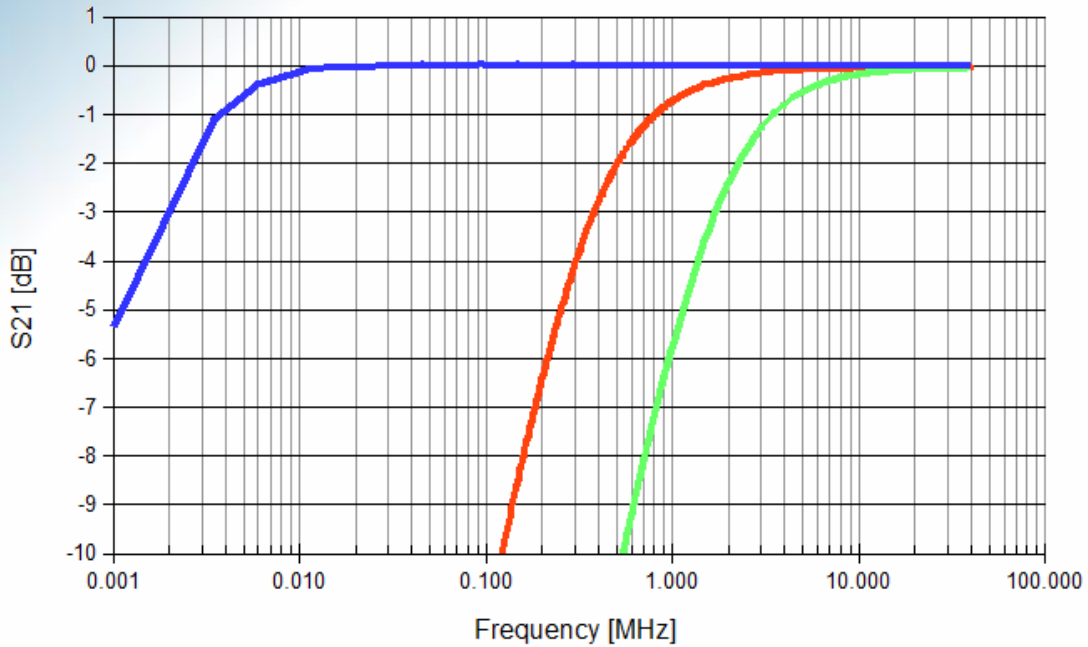
SHF reserves the right to change specifications and design without notice - SHF DCB45R - V002 - Jun 26, 2018

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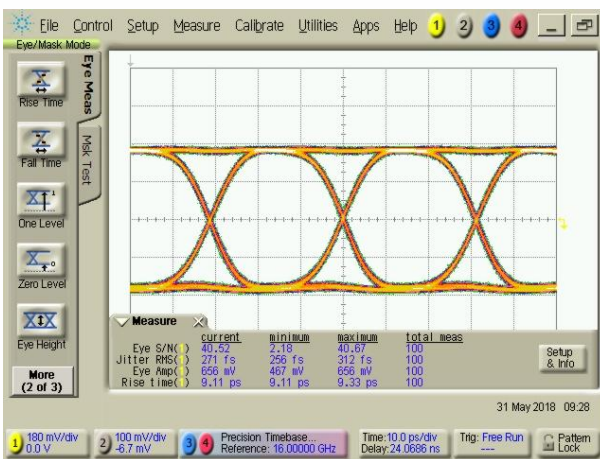
Typical Low Frequency Response

W/o option: blue ; Option HV100: red ; Option HV200: green

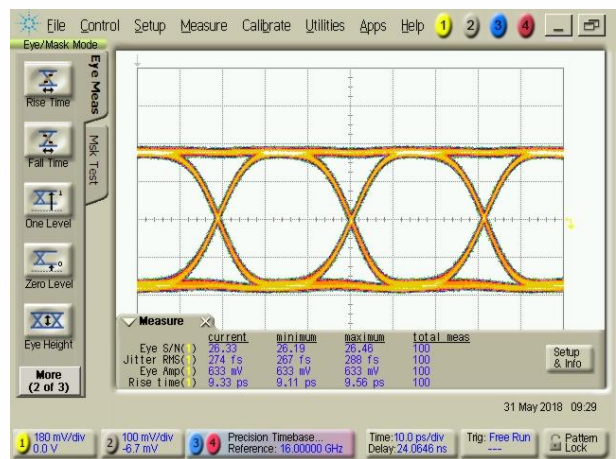


Typical Binary Waveforms

Measurements at 32 Gbps had been performed using a SHF 12103A and an Agilent 86100C DCA with Precision Time Base Module (86107A) and 70 GHz Sampling Head (86118A).



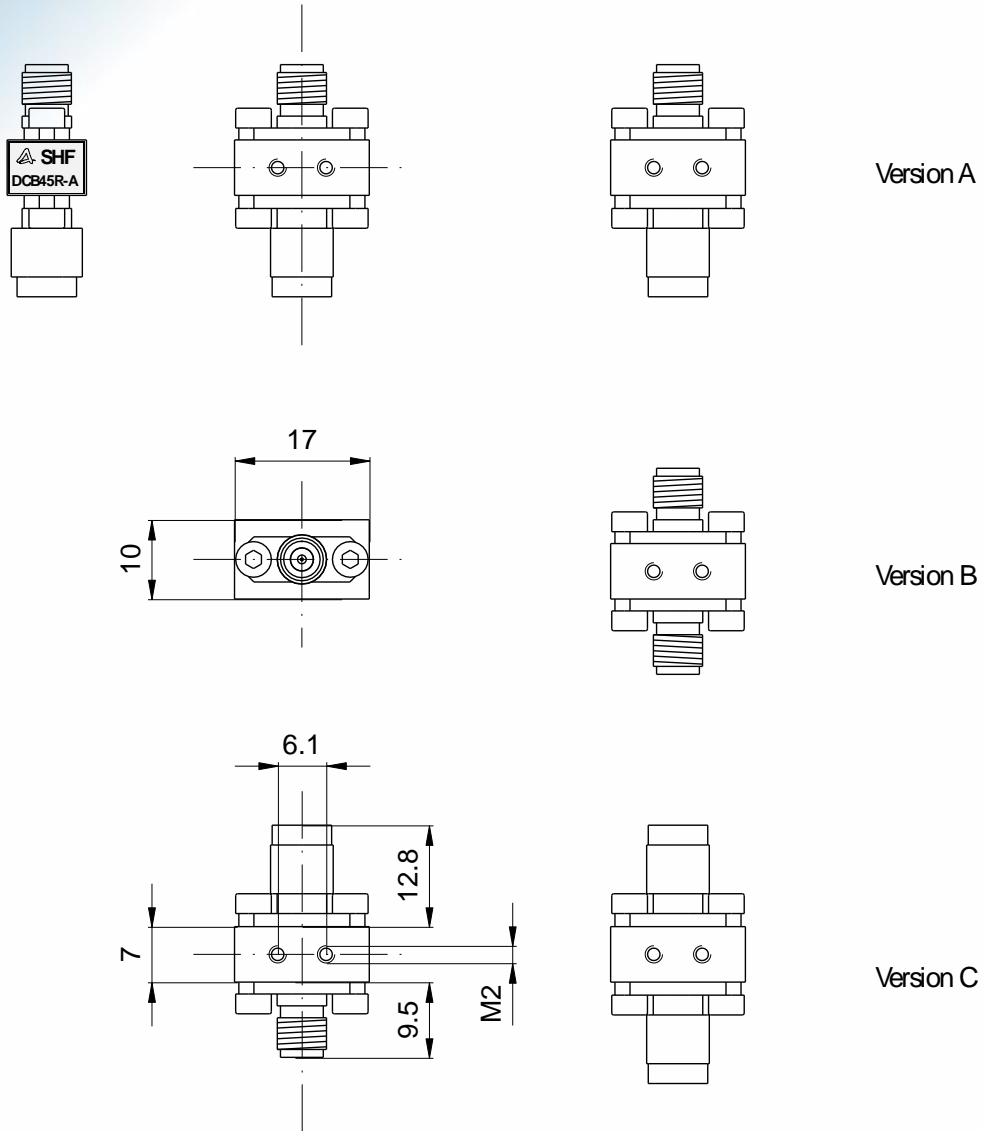
Input Signal @ 32 Gbps



Output Signal @ 32 Gbps



Mechanical Drawing



All dimensions in mm