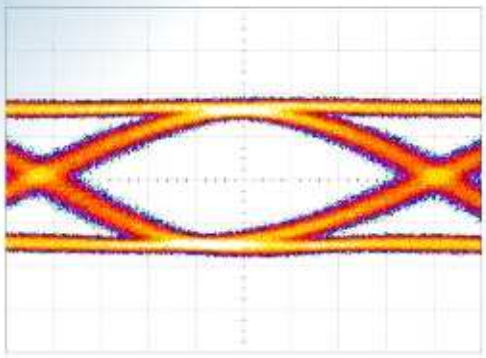
SHF Communication Technologies AG

Wilhelm-von-Siemens-Str. 23 • Aufgang D • 12277 Berlin – Marienfelde • Germany

Phone ++49 30 / 772 05 10 • Fax ++49 30 / 753 10 78

E-Mail: sales@shf.biz • Web: http://www.shf.biz



Datasheet

SHF 441 DIV

>50 GHz

1:2 Frequency Divider Module

Description

The SHF 441 DIV is a static frequency divider capable of broadband operation from 5 GHz to 50 GHz using a sinusoidal input signal. A frequency of half the input frequency is produced. Driving the frequency divider with a steep edge input signal the lower frequency can be extended to the theoretical limit of DC. It offers high sensitivity and high quality output signals together with a compact size and ease of operation.

Features

- Broadband operation up to over 50 GHz
- Complementary Output
- 600 mV_{pp} single ended output signal swing
- Low power consumption
- Single power supply

Applications

- SONET OC-768 and SDH STM-256
- Broadband test and measurement equipment

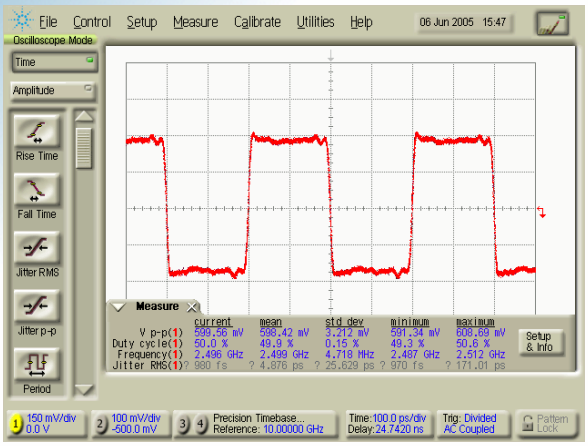
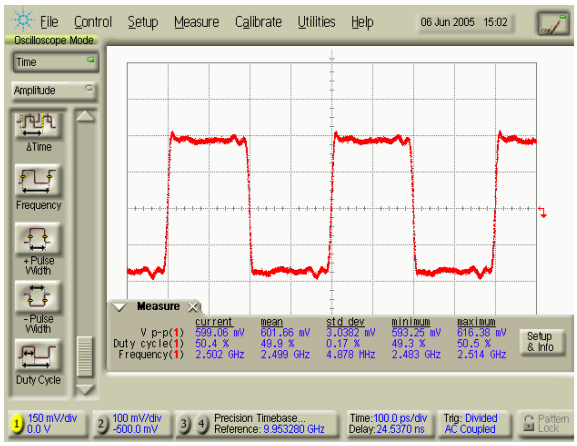
Specifications

Parameter	Symbol	Unit	Min	Typ	Max	Conditions
Performance						
Minimum input frequency	$f_{in,min}$	GHz			5	sinusoidal signal @ 0dBm
Maximum input frequency	$f_{in,max}$	GHz	50	60		sinusoidal signal @ 0dBm
Single ended output swing		mV_{pp}	450	600		into 50 Ω load
Input return loss	RL_{in}	dB	10			<15 GHz
Input return loss	RL_{in}	dB	5			
Output return loss	RL_{out}	dB	10			<30 GHz
Output return loss	RL_{out}	dB	5			
Maximum ratings						
Input voltage	$V_{in,max}$	mV_{pp}			1000	
Operating conditions						
Power supply	V_{ee}	V	-7	-5	-5	
Supply current	$I(V_{ee})$	mA		175		
Power consumption	P_d	W		0.875		
Operating temperature	T_{op}	℃	10		50	
Dimensions		mm				66x36x21 plus connectors

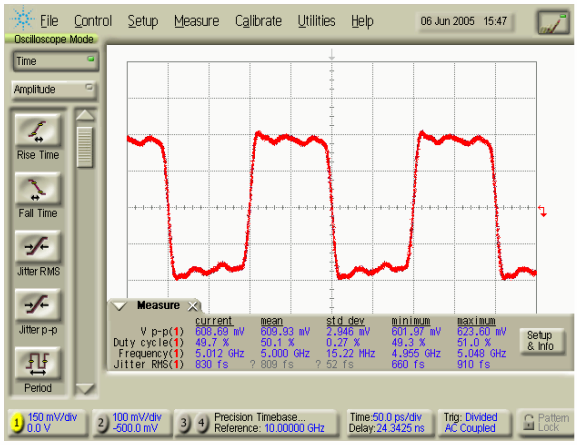
Input connector: V (1.85 mm), AC coupled
Output connectors: K (2.9 mm), AC coupled

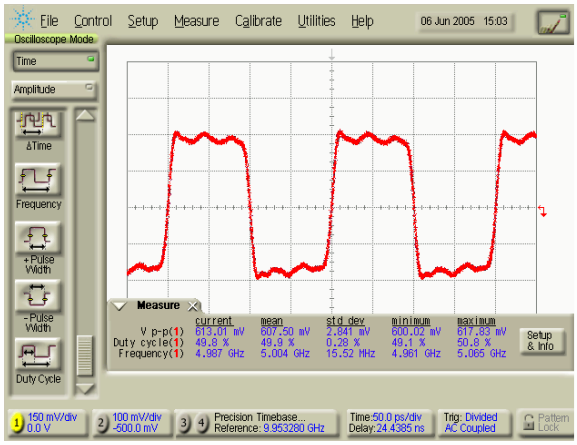
Output waveforms

Measured using Agilent DCA 86100B, sampling module 86118A [70 GHz], precision time base module 86107A, 10 dB attenuator at laboratory temperature (25 °C).

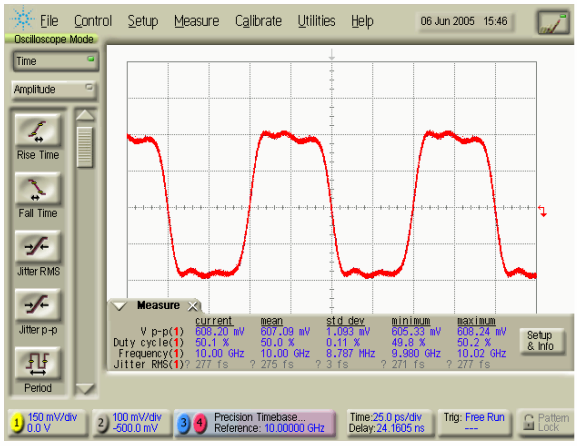
Output Y	Output /Y
	

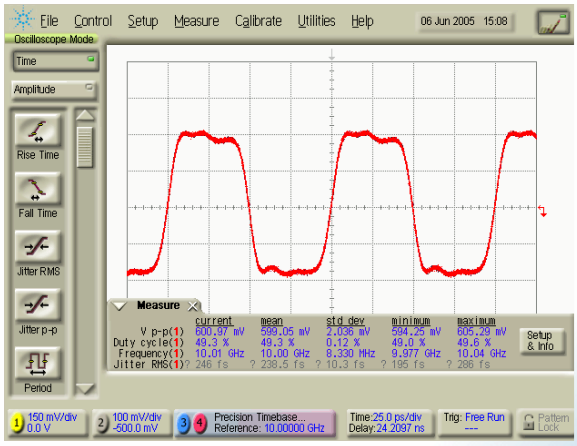
Input Frequency = 5 GHz





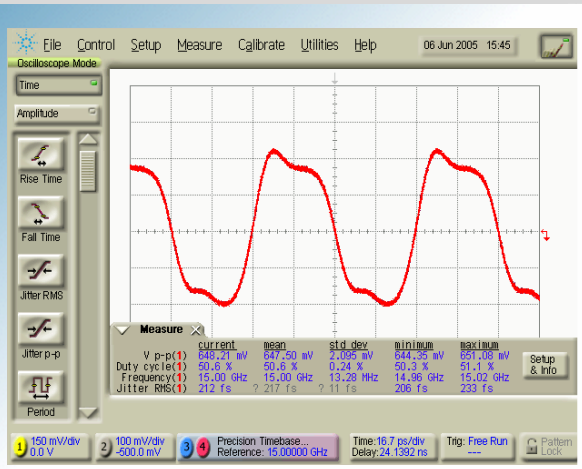
Input Frequency = 10 GHz

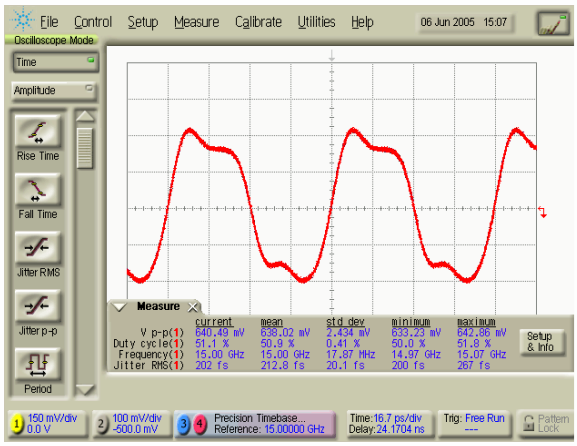




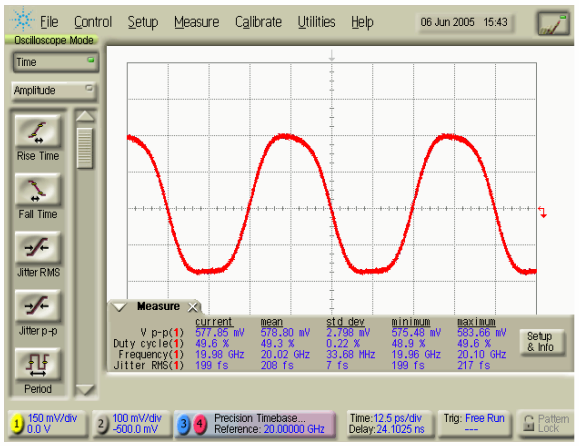
Input Frequency = 20 GHz

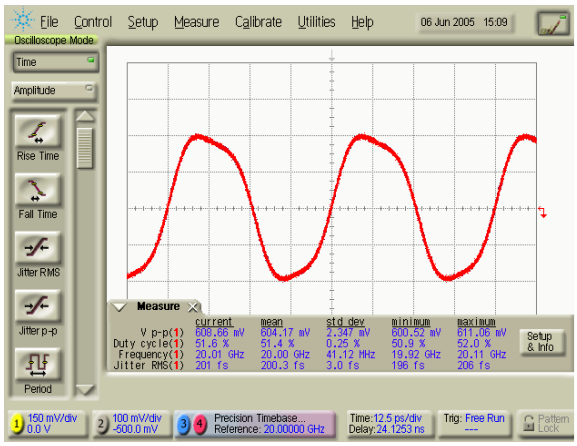
Output Y	Output /Y



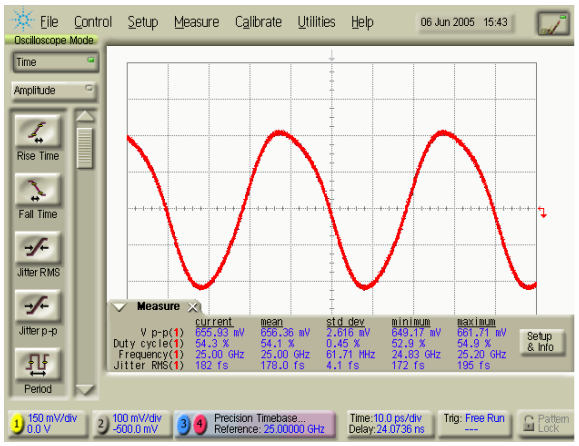


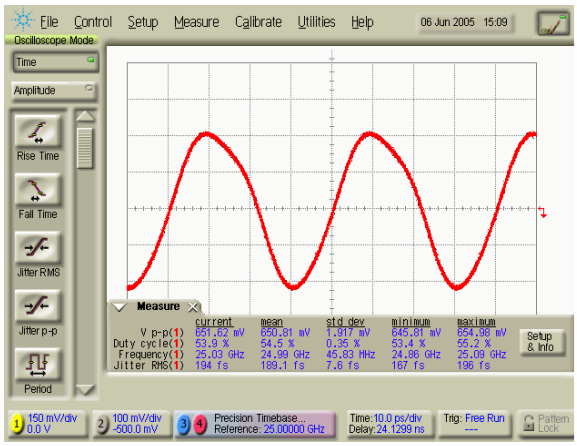
Input Frequency = 30 GHz





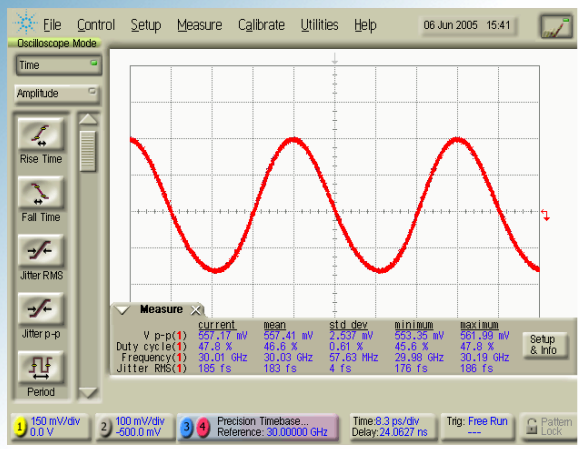
Input Frequency = 40 GHz

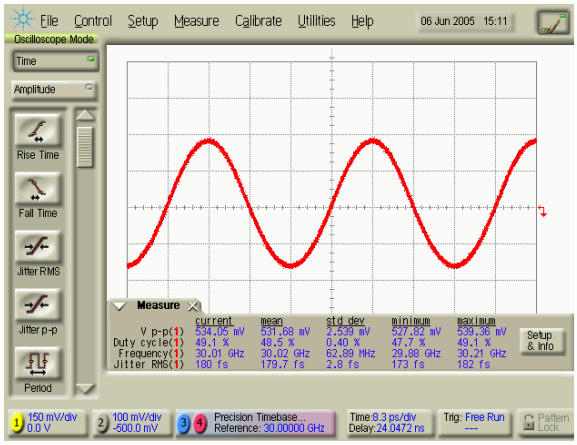




Input Frequency = 50 GHz

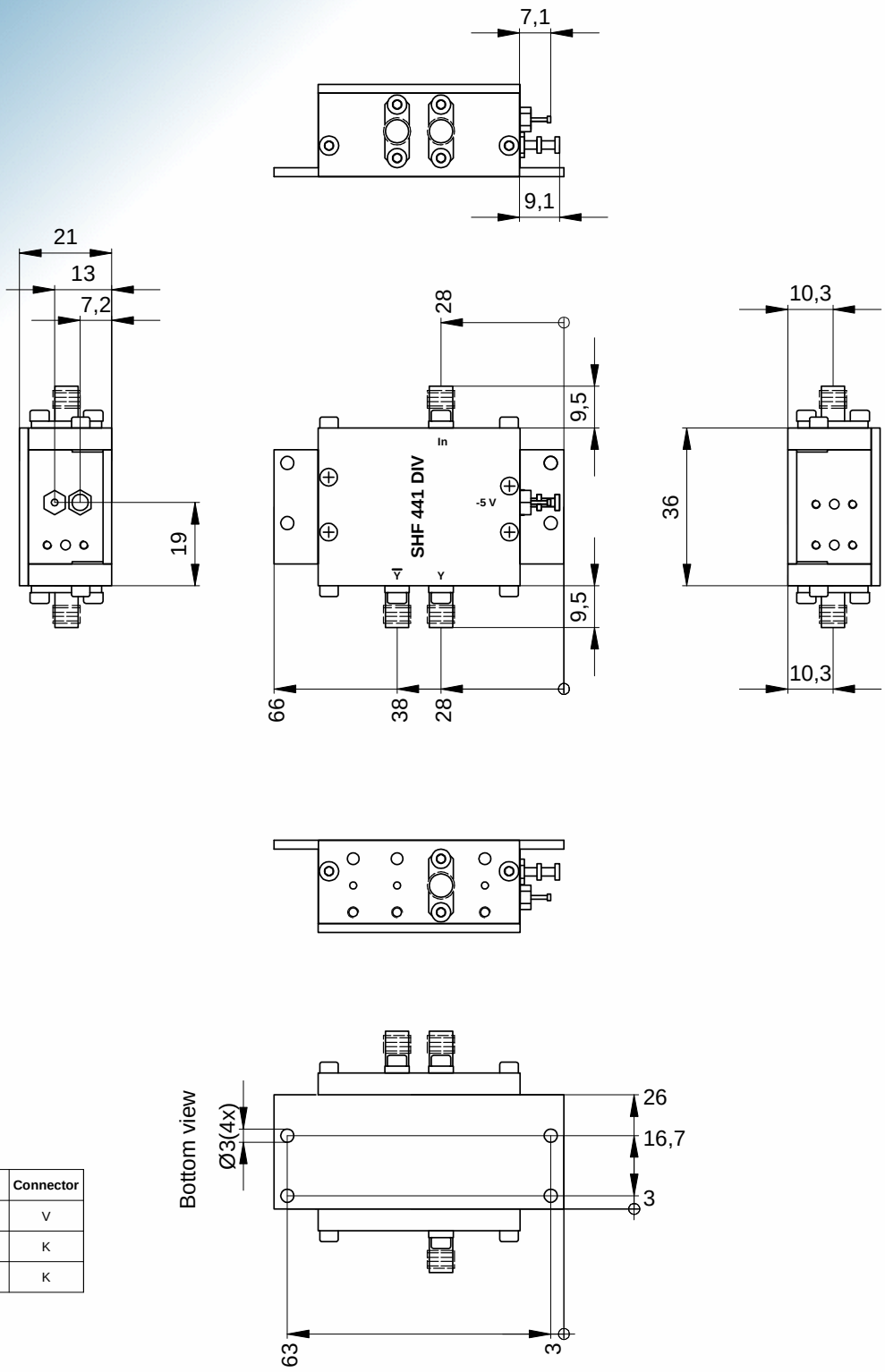
Output Y	Output /Y





Input Frequency = 60 GHz

Module outline



Port	Connector
In	V
Y	K
$\overline{Y}$	K

All dimensions in mm