

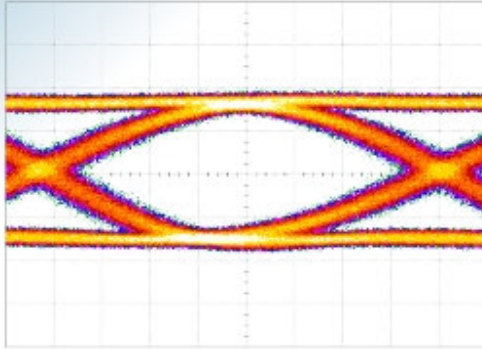


SHF Communication Technologies AG

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

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

E-Mail: sales@shf.de • Web: <http://www.shf.de>

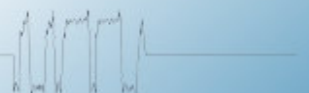
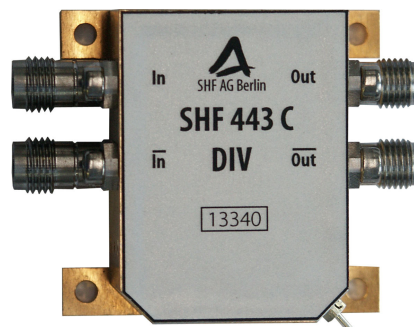


Datasheet

SHF 443C DIV

60 GHz

1:2 Frequency Divider Module





Description

The SHF 443C DIV is a static frequency divider capable of broadband operation from 10 GHz to 60 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 60 GHz
- Differential output
- 300 mV_{pp} single ended output swing
- Low power consumption
- single ended or differential operation (either IN or /IN or both can be used)

Applications

- OC-768/STM-256 applications
- Broadband test and measurement equipment

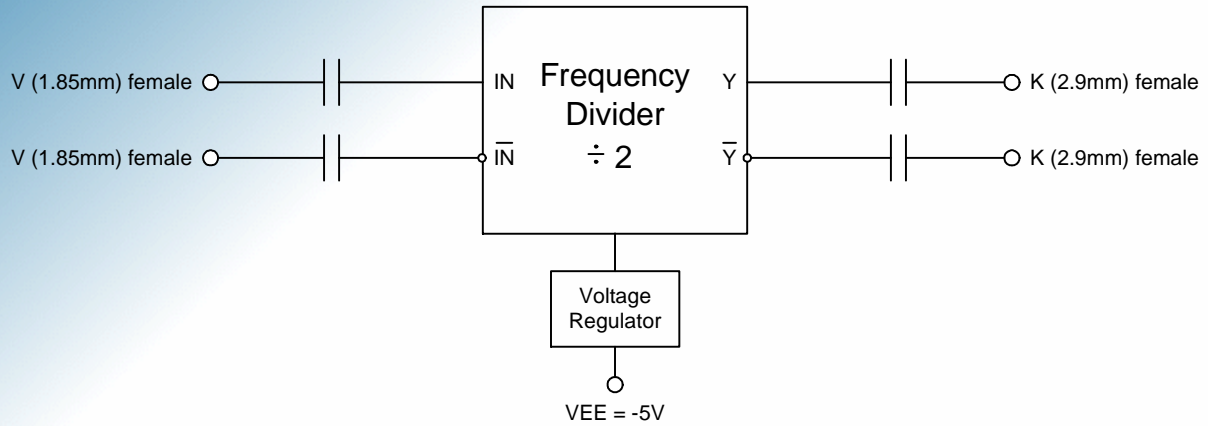
Specifications

Parameter	Symbol	Unit	Min	Typ	Max	Conditions
Performance						
Minimum input frequency	$f_{in,min}$	GHz		5	10	600mV _{pp} sinusoidal input signal
Maximum input frequency	$f_{in,max}$	GHz	60	65		600mV _{pp} sinusoidal input signal
Single ended output swing		mV _{pp}	250	300		into 50 Ω load
Output return loss	S_{22}	dB	5			
Input return loss	S_{11}	dB	5			
Maximum ratings						
Input voltage	$V_{in,max}$	mV _{pp}	500	600	1000	
Operating conditions						
Power supply	V_{EE}	V	-4.5	-5	-5.5	
Supply current	I_{EE}	mA		80		
Power consumption	T_d	mW		400		@ $V_{EE} = -5V$
Operating temperature	T_{op}	°C	10		50	
Dimensions		mm				59x40x18

Input connector: V_{female} (1.85 mm), AC coupled
 Output connectors: K_{female} (2.9 mm), AC coupled

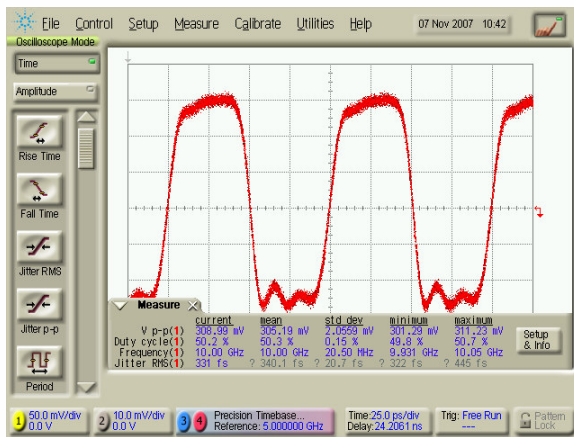


Block Diagram

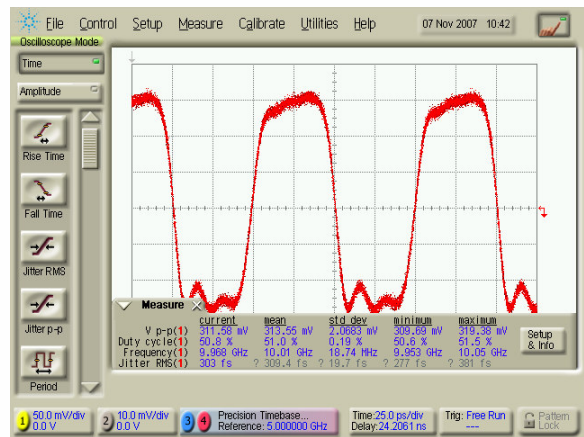


Output waveforms

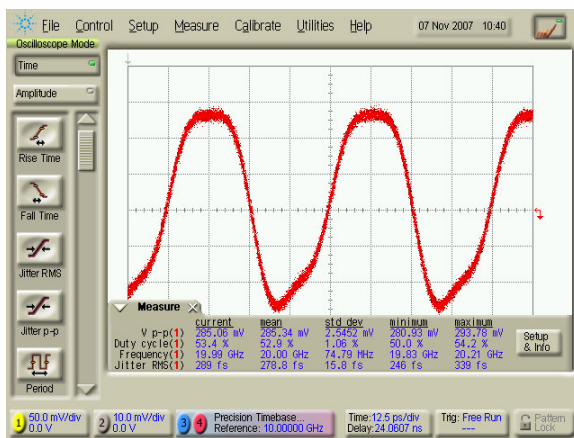
Typical output waveforms measured using Agilent DCA 86100B, sampling module 86118A [70 GHz], 10 dB attenuator, directly at the module outputs.



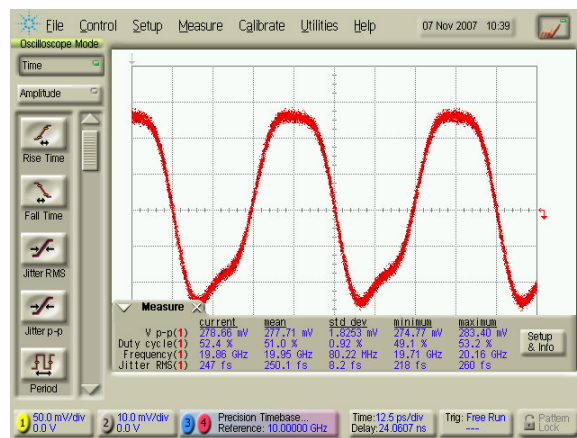
Y @ $f_{in} = 20$ GHz



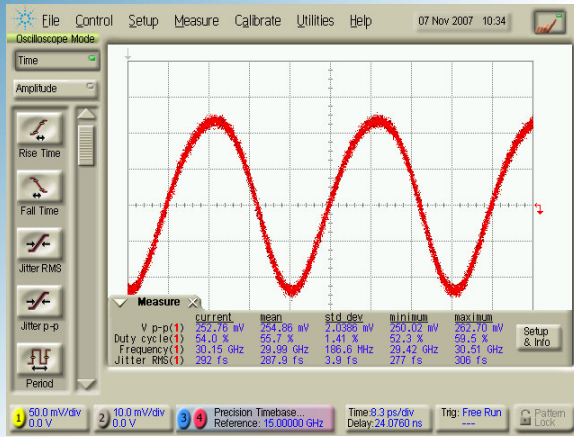
/Y @ $f_{in} = 20$ GHz



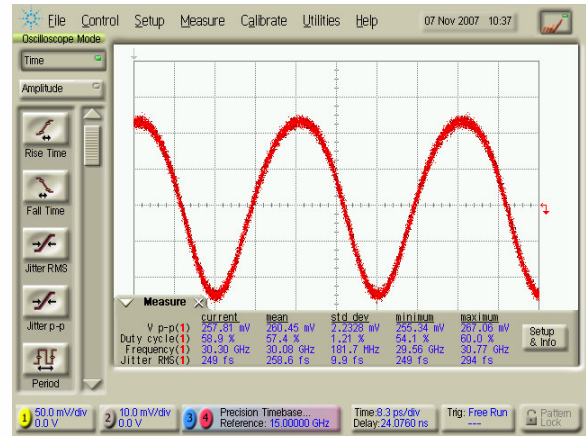
Y @ $f_{in} = 40$ GHz



/Y @ $f_{in} = 40$ GHz

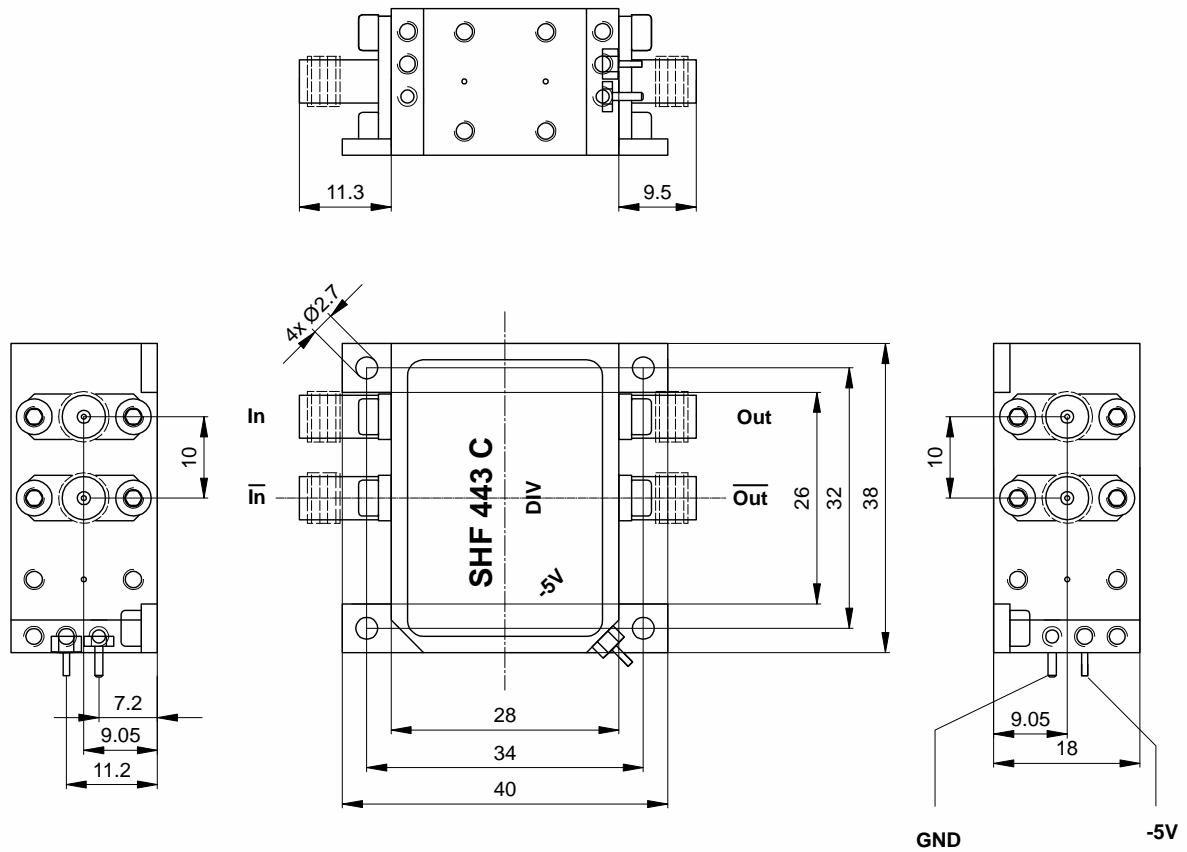


Y @ $f_{in} = 60$ GHz



/Y @ $f_{in} = 60$ GHz

Outline Drawing



Port	Connector
In	V-Connector
$\bar{\text{In}}$	V-Connector
Out	K-Connector
$\bar{\text{Out}}$	K-Connector