SHF Communication Technologies AG

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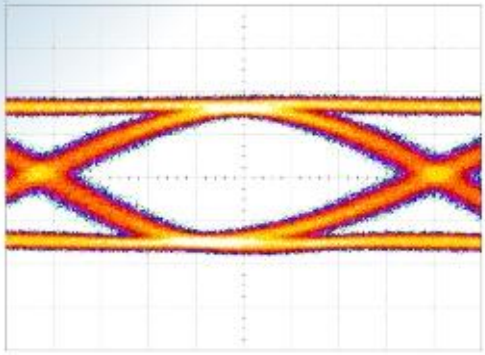


Datasheet

SHF 442A DIV

>25GHz

1:2 Frequency Divider Module

Description

The SHF 442A DIV is a frequency divider capable of broadband operation from 500 MHz to 25 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 25 GHz
- High Input sensitivity
- Low power consumption
- Single-ended operation

Applications

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

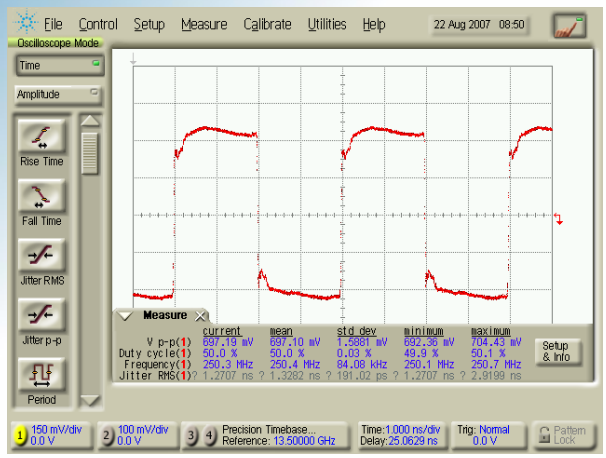
Specifications

Parameter	Symbol	Unit	Min	Typ	Max	Conditions
Performance						
Input frequency	f_{in}	GHz	0.5		25	sinusoidal input signal
Output frequency	f_{out}	GHz	0.25		12.5	sinusoidal output signal
Single ended output swing		mVpp	500		700	into 50 Ω load
Output return loss	S_{22}	dB		10		<12,5 Ghz
Input return loss	S_{11}	dB		10		
Maximum ratings						
Input Power Level	P_{in}				4	
Operating conditions						
Power supply	V_{cc}	V	5		7	
Supply current	$I(V_{cc})$	mA		75		
Power consumption	T_d	W		375		@ V_{cc} = +5V
Operating temperature	T_{op}	°C	10		50	
Dimensions		mm				50x35x22 plus connectors

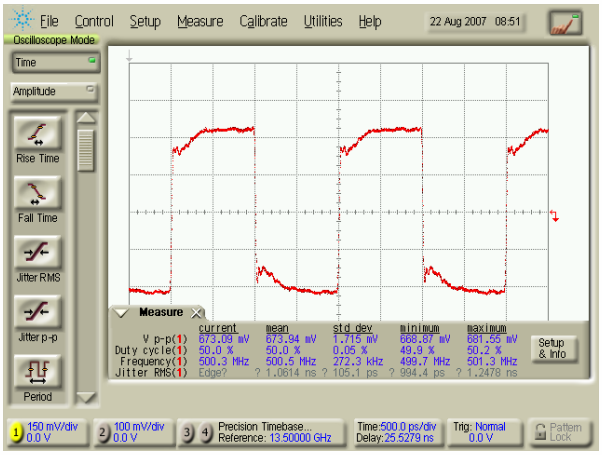
Input connector: K (2.9 mm), AC coupled
Output connectors: K (2.9 mm), DC coupled

Output Waveforms

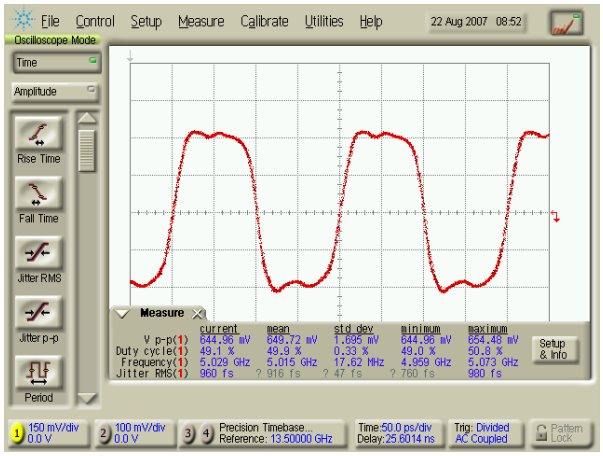
Typical output waveforms measured using Agilent DCA 86100B, sampling module 86118A [70 GHz], precision timebase module 86107A (20, 40, 50 GHz), 0.5 m microwave cable assembly, 10 dB attenuator



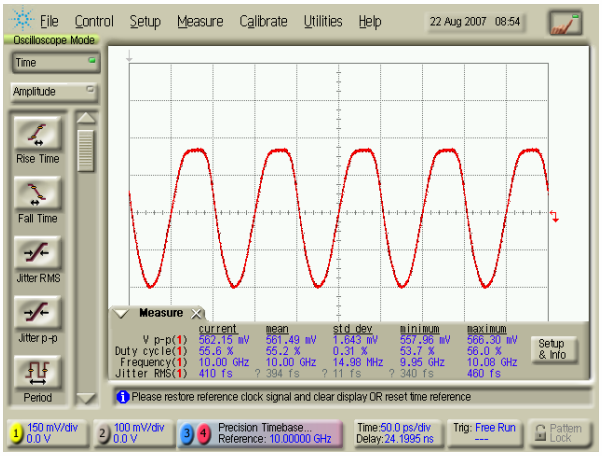
Input Frequency = 500 MHz



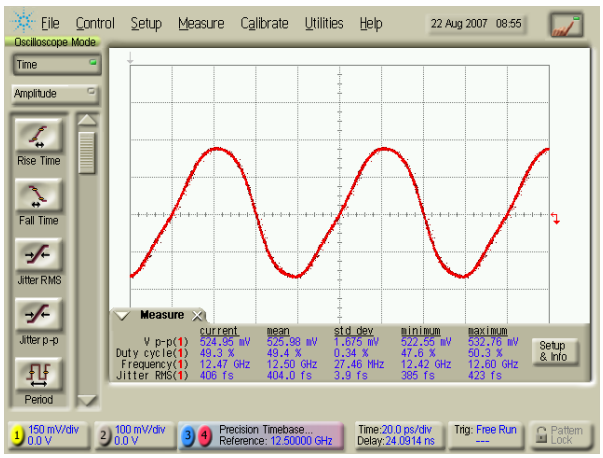
Input Frequency = 1 Ghz



Input Frequency = 10 GHz



Input Frequency = 20 GHz



Input Frequency = 25 GHz

Input Sensitivity

The following figure 1 shows the typical minimum input power level if the frequency divider is driven from a sinusoidal signal.

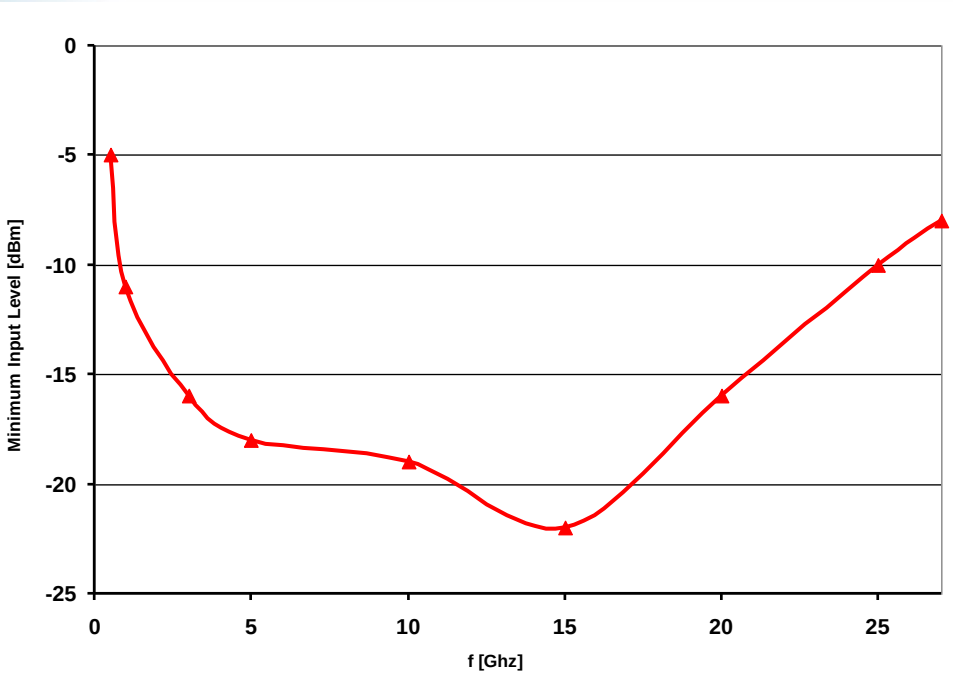
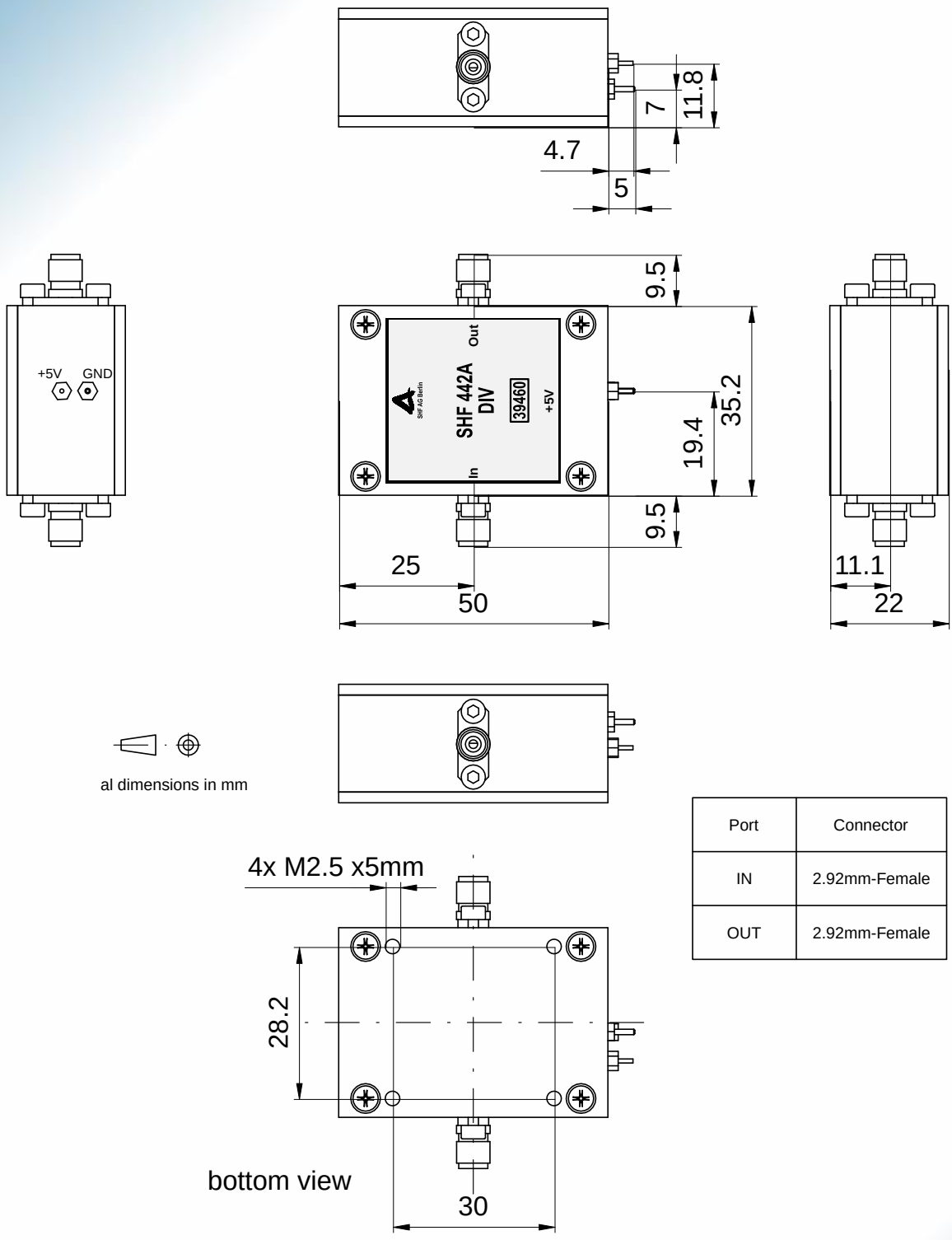


Fig.1: Typical Input Sensitivity

Module Outline



Port	Connector
IN	2.92mm-Female
OUT	2.92mm-Female

SHF Communication Technologies AG
the bandwidth company