

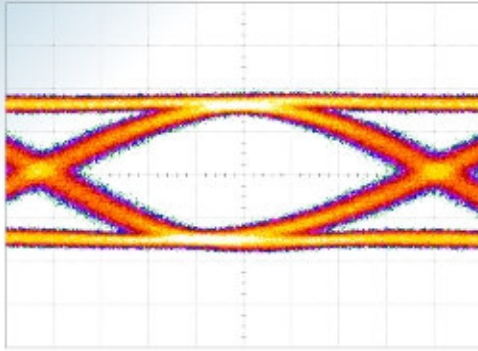


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**Datasheet**  
**SHF 442A DIV**  
**>25GHz**  
**1:2 Frequency Divider Module**





## 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
<b>Performance</b>						
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 $\Omega$ load
Output return loss	$S_{22}$	dB		10		<12,5 Ghz
Input return loss	$S_{11}$	dB		10		
<b>Maximum ratings</b>						
Input Power Level	$P_{in}$				4	
<b>Operating conditions</b>						
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	$T_{op}$	$^{\circ}C$	10		50	
Dimensions		mm				50x35x22 plus connectors

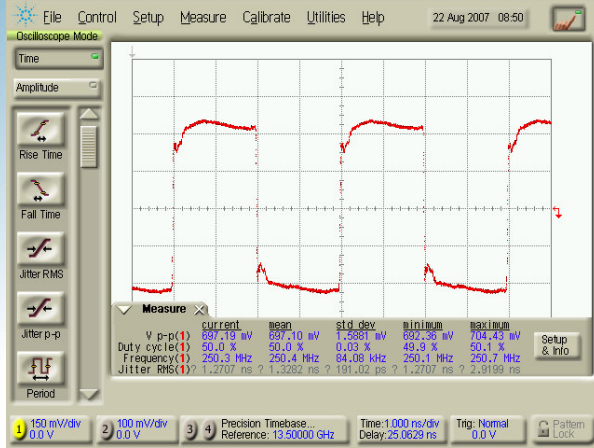
Input connector: K (2.9 mm), AC coupled

Output connectors: K (2.9 mm), DC coupled

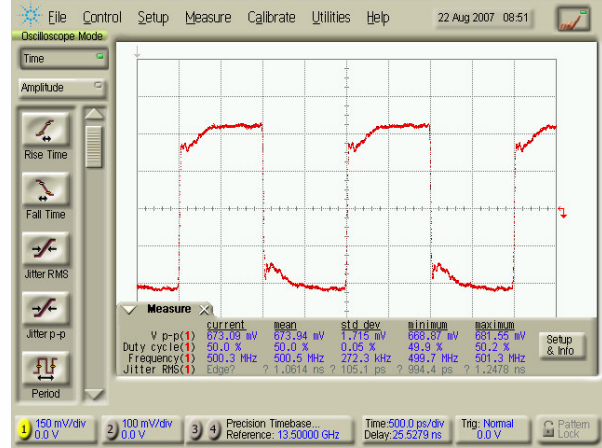


# Output waveforms

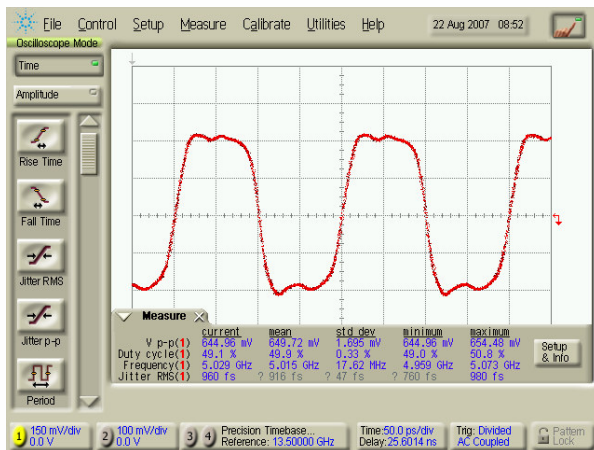
Typical output waveforms measured using Agilent DCA 86100B, sampling module 86118A [70 GHz], precision timebase module 86107A (20, 40, 50 GHz), 0.5 m microwave cable assembly, 10 dB attenuator



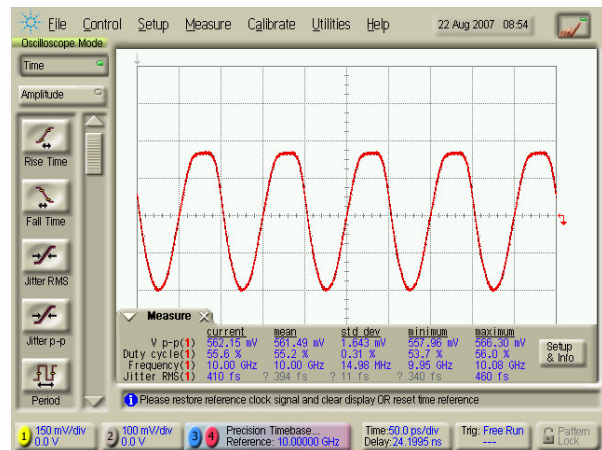
Input Frequency = 500 MHz



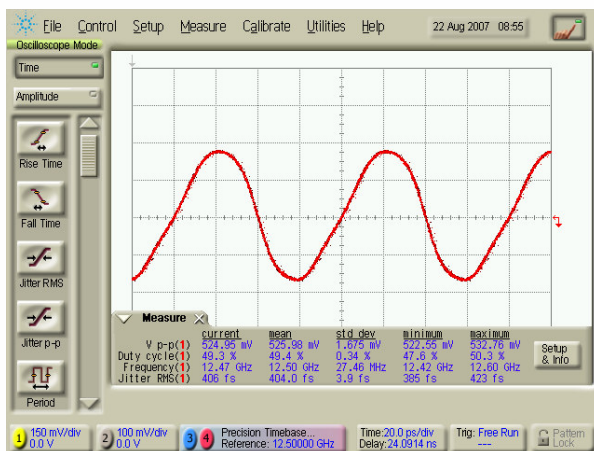
Input Frequency = 1 GHz



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.

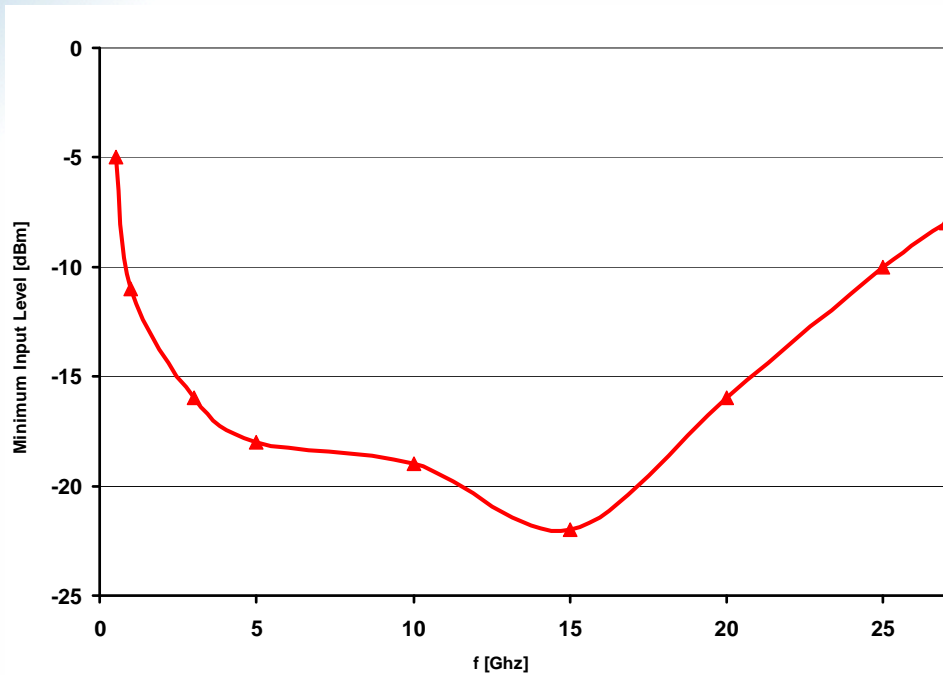


Fig.1: Typical Input Sensitivity



# Module outline

