

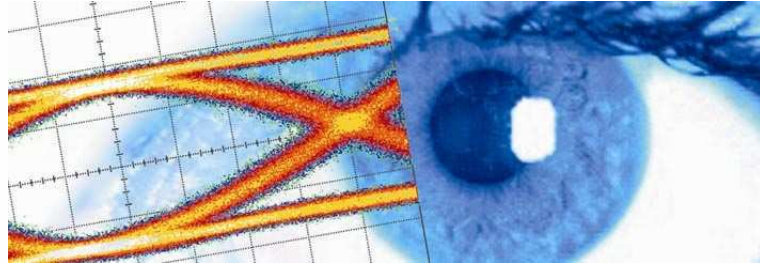


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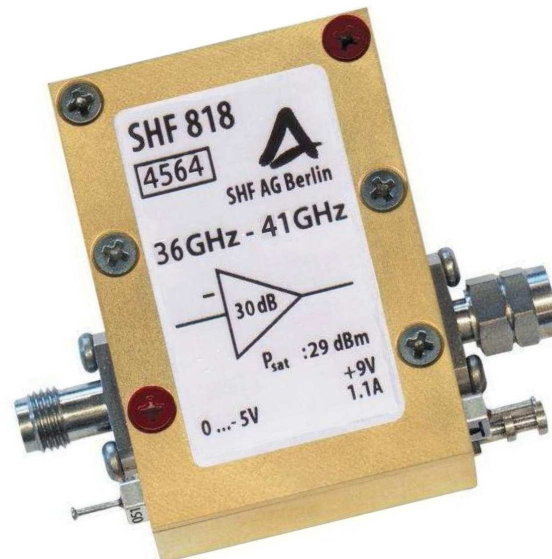
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Datasheet

SHF 818

RF Clock Amplifier

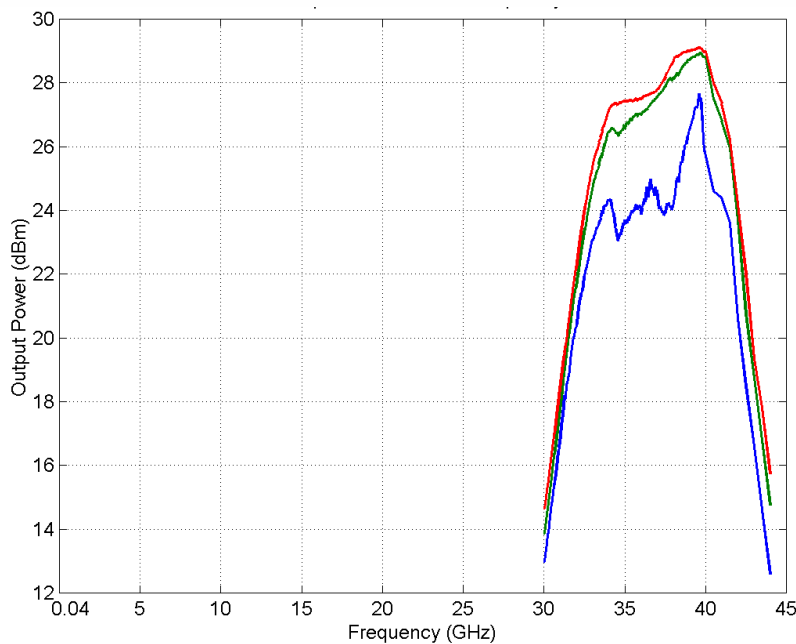




Specifications – SHF 818

Parameter	Symbol	Unit	Min	Typ	Max	Conditions
High frequency 3 dB point	f_{HIGH}	GHz	41			
Low frequency 3 dB point	f_{LOW}	GHz			36	
Gain	G	dB	27	30		inverting
Gain control function		V mA	0 0		-5 10	reduces gain by more than 3 dB
Output power at 1 dB compression	P_{01dB}	dBm (V)		24		
Output power at saturation	P_{sat}	dBm (V)		29		
Input return loss	S_{11}	dB		8	10	>36 GHz <41GHz
Output return loss	S_{22}	dB			10	>30 GHz <43 GHz
Maximum input power		dBm		4 10		in operation without power supply
Supply voltage	U_s	V	9		11	1.1 A, reverse voltage protected
Power consumption		W	9.9			using 9 V supply voltage
Input connector						K (2.9mm) female
Output connector						K (2.9mm) male
Dimensions (LxWxH)		mm				51x35x13.5 excluding connectors

Saturation power



Red (top):
3dB compression;

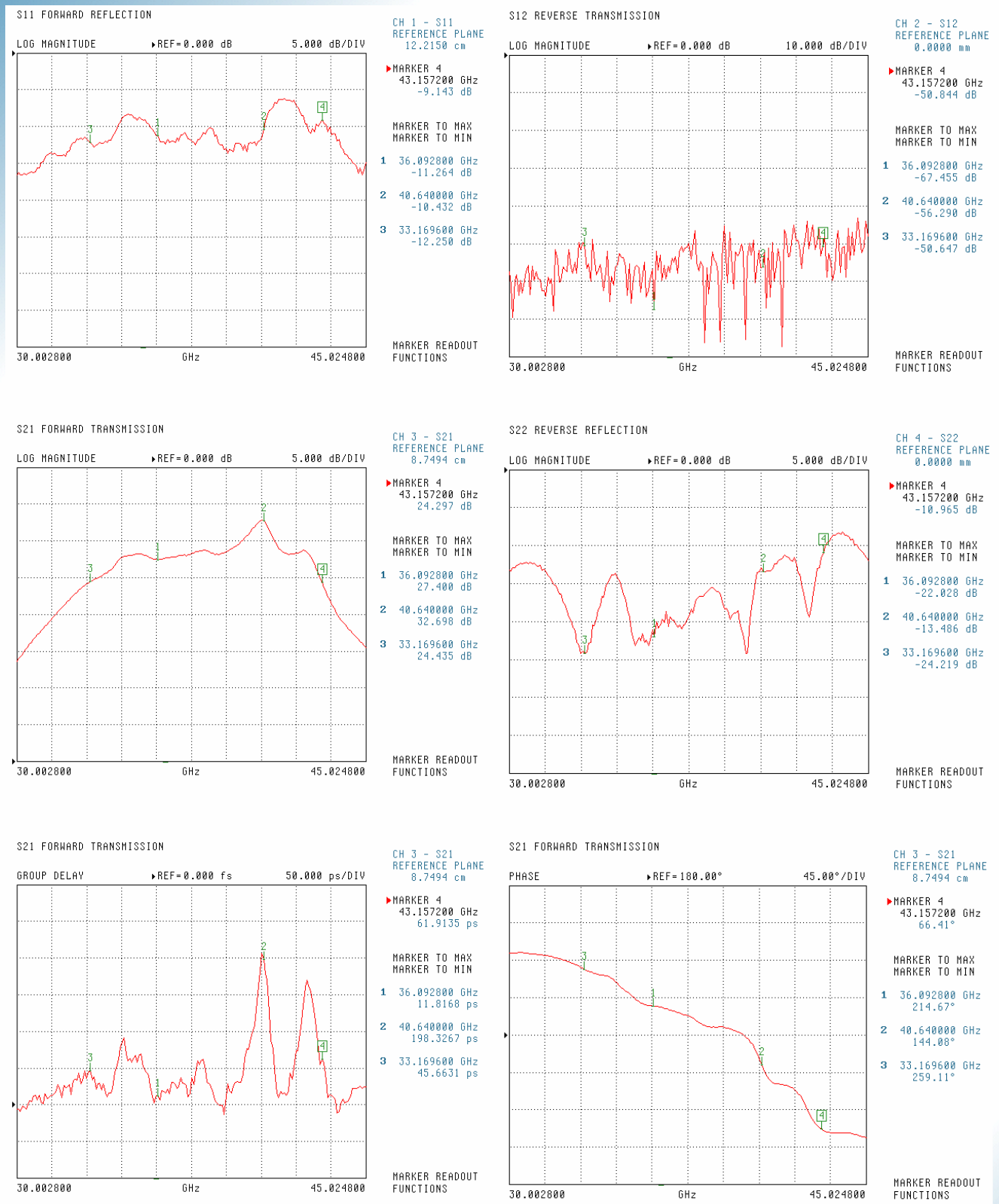
Green (middle):
2dB compression;

Blue (bottom):
1dB compression.

Typical performance results of a prototype amplifier



S-Parameters, group delay and phase response



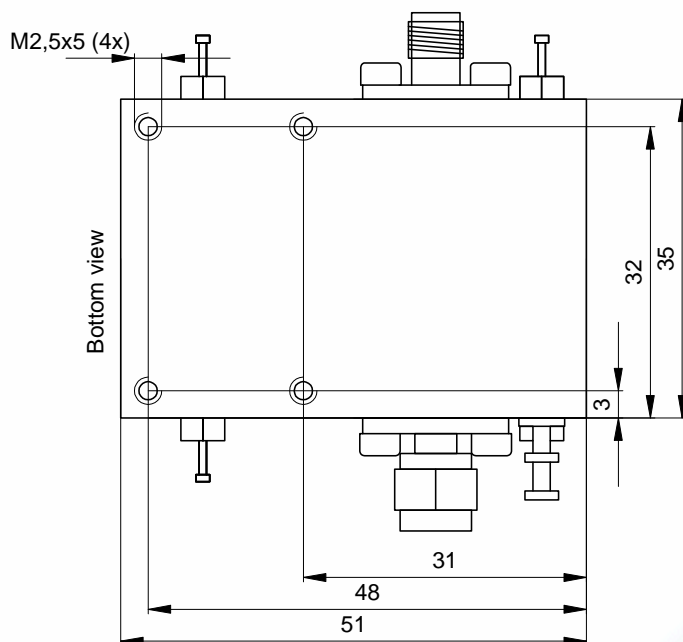
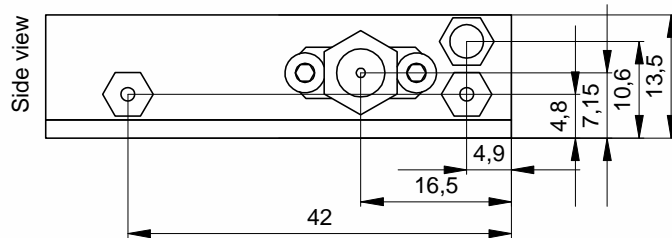
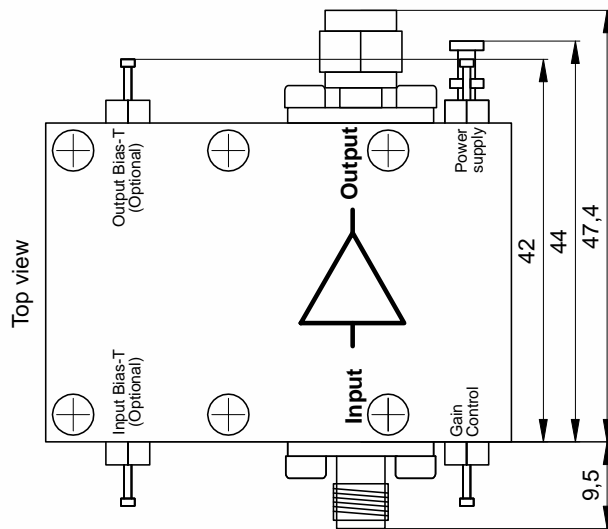
Aperture of group delay measurement: 81 MHz



■ **Available Options**

- 01: DC return on input
- 02: Built-in bias-T on input
- 03: DC return on output
- 04: Built-in bias-T on output

The following options cannot be combined:
01 and 02
03 and 04
02 and 04





User Instructions

ATTENTION !

Electrostatic sensitive GaAs FET amplifier

1. To prevent damage through static charge build up, cables should be always discharged before connecting them to the amplifier!
2. Attach a 50 Ohm output load **before** supplying DC power to the amplifier!
3. The supply voltage can be taken from any regular 9...12V, 1.1A DC power supply and can be connected to the supply feed-through filter via an ON / OFF switch.
4. The minimum supply voltage is 9V. A higher one increases the power dissipation of the internal voltage stabilizer.
5. Using a 3 dB or 6 dB input attenuator will result in a 6 dB or 12 dB increase of the input return loss. For minimal degradation these attenuators should have a bandwidth specification of >50 GHz (V/ 1.85mm attenuators)!
6. An input signal of about 0.63 V_{pp} equivalent to 0 dBm will produce the full swing output of 17 V_{pp}
7. We recommend that the amplifier be used in conjunction with a 50 Ohm load. Use of a reflective load for extended periods should be avoided.
8. The input voltage should never be greater than 1 V_{pp} equivalent to 4 dBm input power.

The input voltage without DC power supplied to the amplifier should never be greater than 2 V_{pp} equivalent to 10 dBm input power.