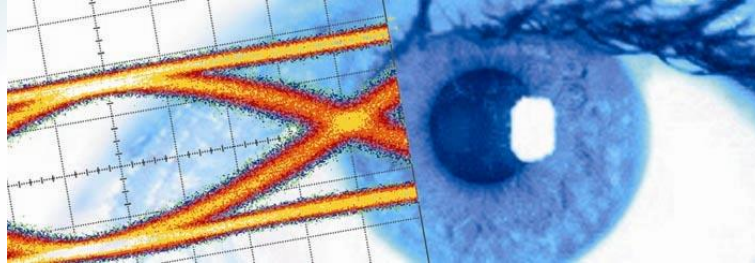
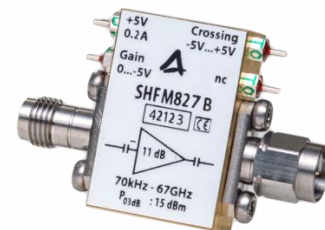




SHF Ultra Broadband Amplifiers

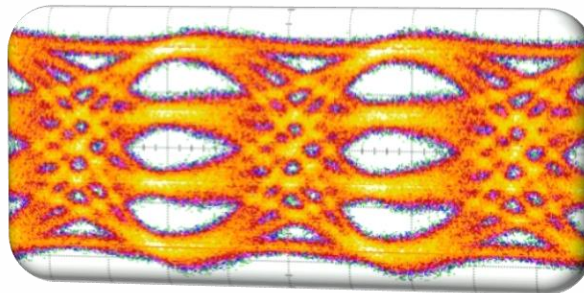


SHF has 35 years of experience in amplifier design and production. All key MMICs used in our products are our own in-house designs. The outstanding RF performance makes our amplifiers well suited for a wide variety of applications in research & development. This comprises not only optical communications, but also satellite communications, high-speed pulse experiments, data transmission, radar and antenna measurements.



Linear Operation

In some modulation schemes, the optical modulator is driven with an electrical multi-level signal (e.g. for QAM or PAM) or with an analog signal (e.g. for OFDM). SHF amplifiers have been verified for their excellent performance with multi-level and analog signals.



2 V / 56 GBaud (112 Gbps) Signal from a SHF M827 B

Ease of Use

With SHF amplifiers, all operating voltages are generated internally. Therefore, only one single external power supply is needed. In addition, built-in safety features such as reverse-voltage protection and current regulators eliminate the potential risk of accidental damage.

The Fastest Amplifier

With 70 GHz of 3 dB bandwidth, the SHF M827 B is the fastest amplifier SHF ever offered. Amplification of 120 GBaud (240 Gbps) PAM4 signals has been shown to be possible using equalization techniques of a software-based multi-tap FFE filter. For this amplifier, a 1.0 mm connector option is now available.

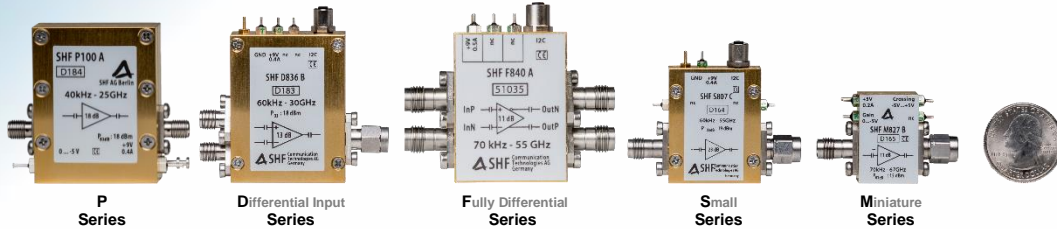


Options

Internal bias tees and DC-returns can be added to the input or output ports. Matched pair options are also available for applications where the DUT has to be driven by two 'identical' signals in push-pull mode.

Form Factor & Control Functions

SHF amplifiers are available in different styles as indicated by the first letter in the product code.



Each amplifier has a gain control function to enable the amplification to be reduced continuously by up to 3 dB. The SHF "S", "D" and "F" series even provide a software control to set parameters like gain, output power, bandwidth and crossing (if available for the particular amplifier type).

The "D" series features differential input, single-ended output linear drivers with excellent common mode suppression. The SHF F840 A is SHF's first fully differential amplifier.

Product Range

The table shows all the SHF amplifiers with their guaranteed small signal bandwidth and typical gain. For linear applications, the guaranteed 1 dB power compression point indicates the possible output amplitude (note, for binary applications the higher 3 dB compression is a more appropriate value).

Bandwidth	1 dB power compression point							
	11 dBm	12 dBm	13 dBm	14 dBm	15 dBm	16 dBm	18 dBm	23 dBm
70 GHz	NEW M827 B Opt. 1.0mm 11 dB							
66 GHz	M804 B 22 dB	M827 B 11 dB						
60 GHz		S804 B 22 dB						
55 GHz	M803 A 22 dB		F840 A 11 dB		S807 C 23 dB			
50 GHz			M833 B 12.5 dB					
35 GHz		D837 C 10 dB					SHF S824 A 25 dB	
34 GHz						M834 B 15 dB		
30 GHz				D836 C 12 dB				
25 GHz			P100 A 18 dB	P115 A 25 dB			P101 A 16 dB	S126 A 29 dB
14 GHz							P101 A Opt. ML 16 dB	

