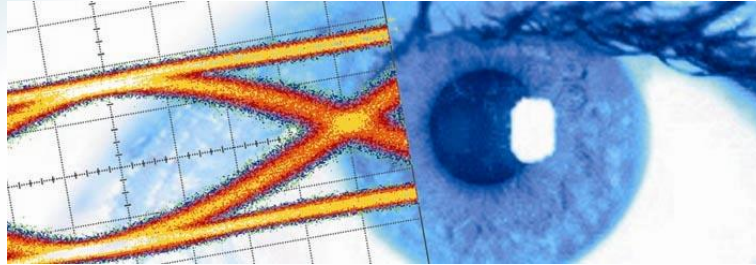


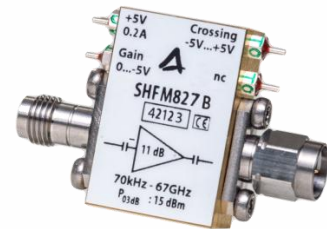


SHF Ultra Broadband Amplifiers



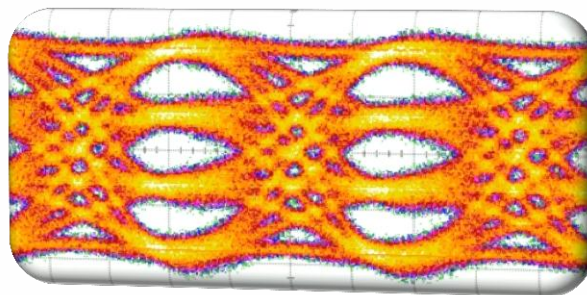
Introducing our Range of Amplifiers

SHF has more than 30 years of experience in amplifier design and production. All the 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). Many of SHF amplifiers have been verified for their excellent performance with multi-level and analog signals. These amplifiers are marked blue in the table on page 2. The SHF S807 C, for example, is an amplifier specifically designed for 4-level PAM4 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 power supply is needed. In addition, built-in safety features such as reverse-voltage protection and current regulators eliminate the risk of accidental damage.

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.



SHF P, L, D, S and M series amplifiers

Each amplifier has a gain control function to enable the amplifier gain to be reduced continuously by up to 3 dB. The SHF “S” and “D” series even provides a software control to set the gain, output power and crossing.

The “D” series features differential input, single-ended output linear drivers with excellent common mode suppression.

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	66 GHz	M804 B 22 dB	M827 B 11 dB									
	60 GHz		S804 B 22 dB									
	55 GHz	M803 A 22 dB			S807 C 23 dB							
	50 GHz			M833 B 12.5 dB								
	40 GHz							L806 A 29 dB				
	38 GHz							L810 A 29 dB				
	35 GHz		D837 B 10 dB									
	34 GHz					M834 B 15 dB						
	30 GHz				D836 B 13 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			
			2.2 V _{pp} / 11 dBm	2.5 V _{pp} / 12 dBm	2.8 V _{pp} / 13 dBm	3.5 V _{pp} / 15 dBm	4 V _{pp} / 16 dBm	4.7 V _{pp} / 17.5 dBm	5 V _{pp} / 18 dBm	8.9 V _{pp} / 23 dBm		

1 dB power compression point P1dB

Our ultra linear amplifiers are marked blue.