

VGA1000 Variable Gain Amplifier

50 MHz to 1000 MHz

VGA1000

Description

VGA1000 is a Variable Gain Amplifier optimized for any application requiring high performance, wide bandwidth variable gain control.

Features

- Wide Band : 50 MHz to 1000 MHz
- P1dB Output Power: 20 dBm
- Output IP3: +36 dBm
- Gain : 19.5 dB to -12.25 dB
- Gain Resolution : 0.25 dB
- 50 Ohm I/O's

Applications

- Cellular/3G & LTE/WiMAX/4G
- LO Driver Applications
- Microwave Radio
- Test & Measurement Equipment



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Electrical Specifications

Parameter	Min.	Typ.	Max.	Units
Frequency Range	50		1000	MHz
Gain Setting	-12.25		19.5	dB
Gain Resolution		0.25		dB
Input Return Loss		-15		dB
Output Return Loss		-15		dB
Reverse Isolation		25		dB
Output Power for 1 dB Compression (P1dB)		20		dBm
Output Third Order Intercept (IP3)		36		dBm

Max. Ratings

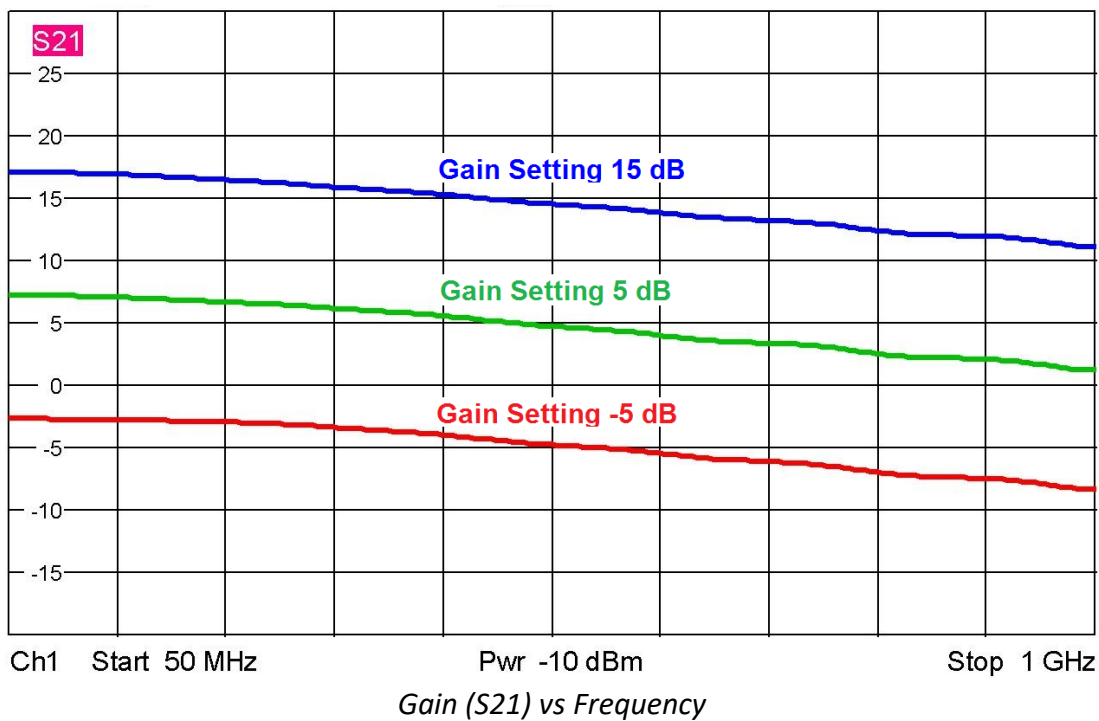
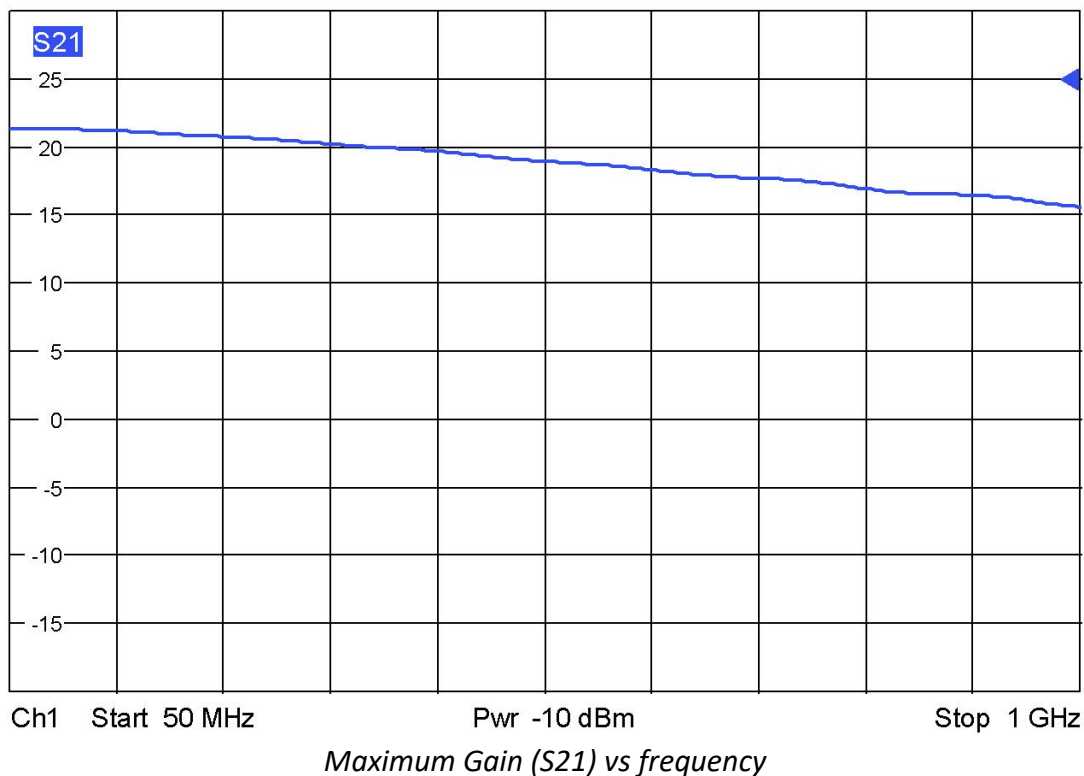
DC Voltage at input or output	25 Volt
RF input power	20 dBm
Operating Temperature	-40°C to 85°C

Exceeding any of the limits of this section may lead to permanent damage to the device. Furthermore, extended operation at these maximum ratings may reduce the life of this device.

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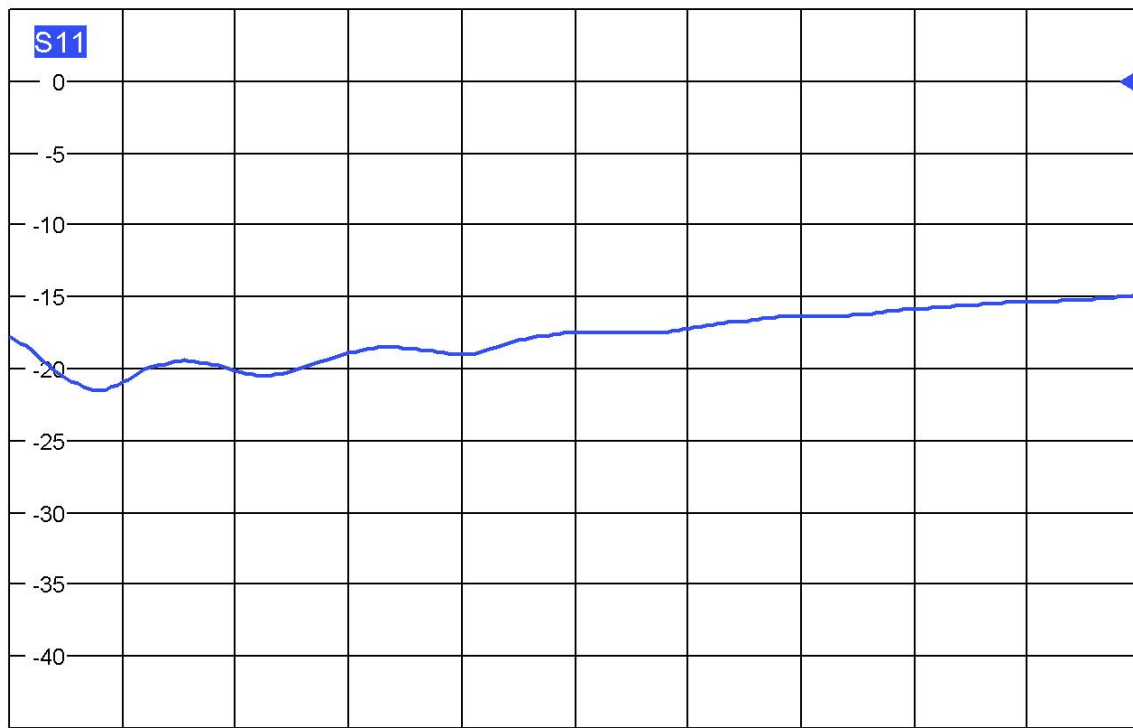
50 MHz to 1000 MHz

Typical Characteristics



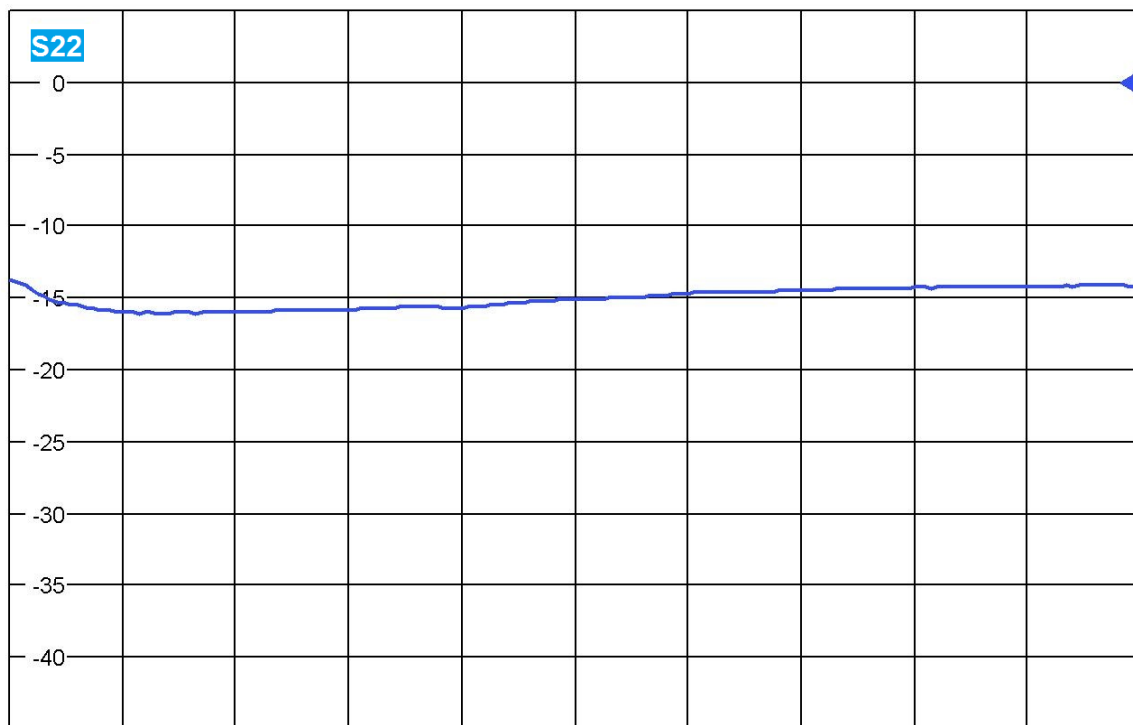
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Ch1 Start 50 MHz Pwr -10 dBm Stop 1 GHz

Input Return Loss (S11) vs Frequency



Ch1 Start 50 MHz Pwr -10 dBm Stop 1 GHz

Output Return Loss vs Frequency

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MATLAB Code Example

```
sys=serial('COM113','BaudRate',1000000,'DataBits',8,  
'Parity','none','FlowControl','none','Timeout',1);  
  
fopen(sys); % open COM port  
  
VGA1000_address = 19;  
  
ION_ON(sys,VGA1000_address); % turn module ON  
  
VGA(sys,VGA1000_address,10.25); % set gain 10.25 dB  
  
fclose(sys); % close COM port
```