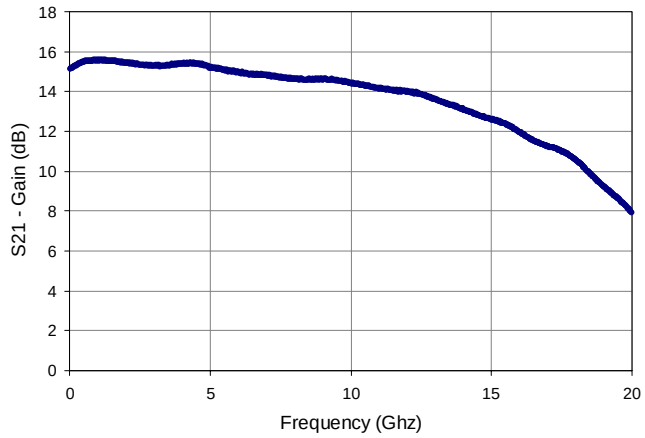
MODEL 5867
15 GHZ LINEAR AMPLIFIER

- **Broadband linear gain amplifier (15 dB gain)**
- **15 GHz bandwidth with excellent gain flatness (±0.3 dB)**
- **Lower 3 dB frequency of 10 kHz**
- **Low deviation from linear phase (±3 degrees)**
- **1 dB compression point of 13 dBm**
- **RF power detection**

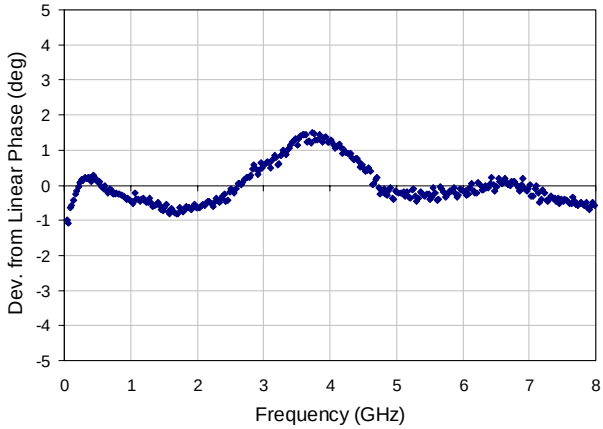


The Picosecond Pulse Labs Model 5867 is a broadband linear amplifier intended for use amplifying signals with a minimum amount of distortion. The 5867 demonstrates exceptional gain flatness and low deviation from linear phase while providing a bandwidth of 10 kHz to 15 GHz. This amplifier is ideal for use as a linear gain block in applications such as 12.5 Gb/s fiber optic receiver channels.

Typical Measurements



S21 - Gain



Deviation from Linear Phase

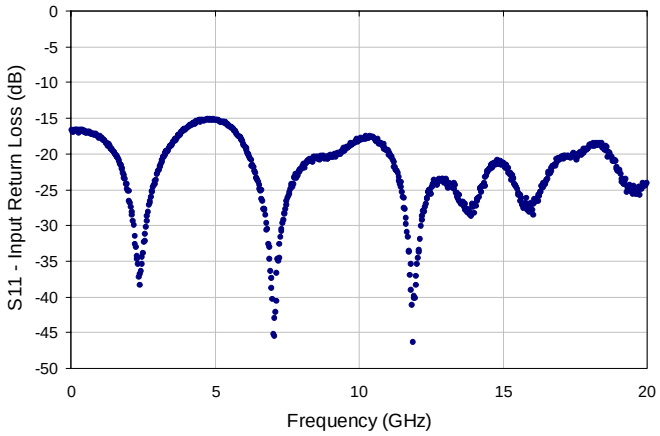
5867 Electrical Specifications

PARAMETER	SYMBOL	UNITS	MIN	TYPICAL	MAX	COMMENTS
Gain		dB	13	15	16	Average at 1 GHz and 2 GHz
Upper 3 dB Frequency	$f_{c,h}$	GHz	14	15		3dB roll-off point
Lower 3 dB Frequency	$f_{c,l}$	kHz		10	20	3dB roll-off point
Gain Flatness		dB		±0.3	±0.5	50 MHz < f < 7 GHz
Deviation from Linear Phase		deg		±3	±5	50 MHz < f < 8 GHz
Characteristic RF Impedance		Ohms		50		
Input Return Loss	S_{11}	dB			-10	50 MHz < f < 20 GHz
Output Return Loss 50 MHz < f < 14 GHz 14 GHz < f < 16 GHz	S_{22}	dB			 -10 -9.5	
Noise Figure	NF	dB		5.0	7.0	f > 50 MHz
Output Power at 1 dB Gain Compression		dBm	10	13		
Power Detector RF Bandwidth		GHz		15		
Power Detector Output Bandwidth (video)		KHz		20		
Power Detector Output Voltage Range		V_{DC}	3.4	4.0	4.6	at 12 dBm RF output

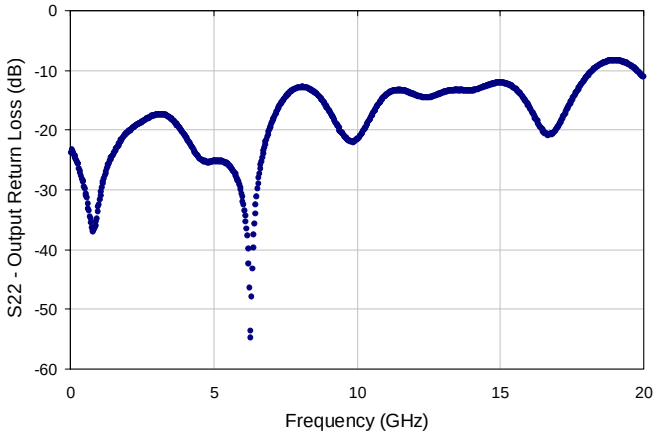
5867 Operating Specifications

PARAMETER	SYMBOL	UNITS	MIN	TYPICAL	MAX	COMMENTS
Maximum allowed Input		dBm			15	Damage threshold
DC Voltage Supply (pos)	$+V_{DC}$	V_{DC}	7.5	8	8.5	Typical 105 mA
DC Voltage Supply (neg)	$-V_{DC}$	V_{DC}	-5.5	-5	-4.5	Typical 7 mA
Power Dissipation	P_{diss}	W		1.0	1.5	
Input DC Bias Range	V_{bias}	V_{DC}	-10		+9	Input is AC coupled
Output DC Bias Range	V_{bias}	V_{DC}	-5		+13	Output is AC coupled
Operating Temperature	T_{CASE}	°C	0		75	Case Temperature
Storage Temperature	T_{CASE}	°C	-40		125	Case Temperature

Static sensitive device, limited 30-day warranty.

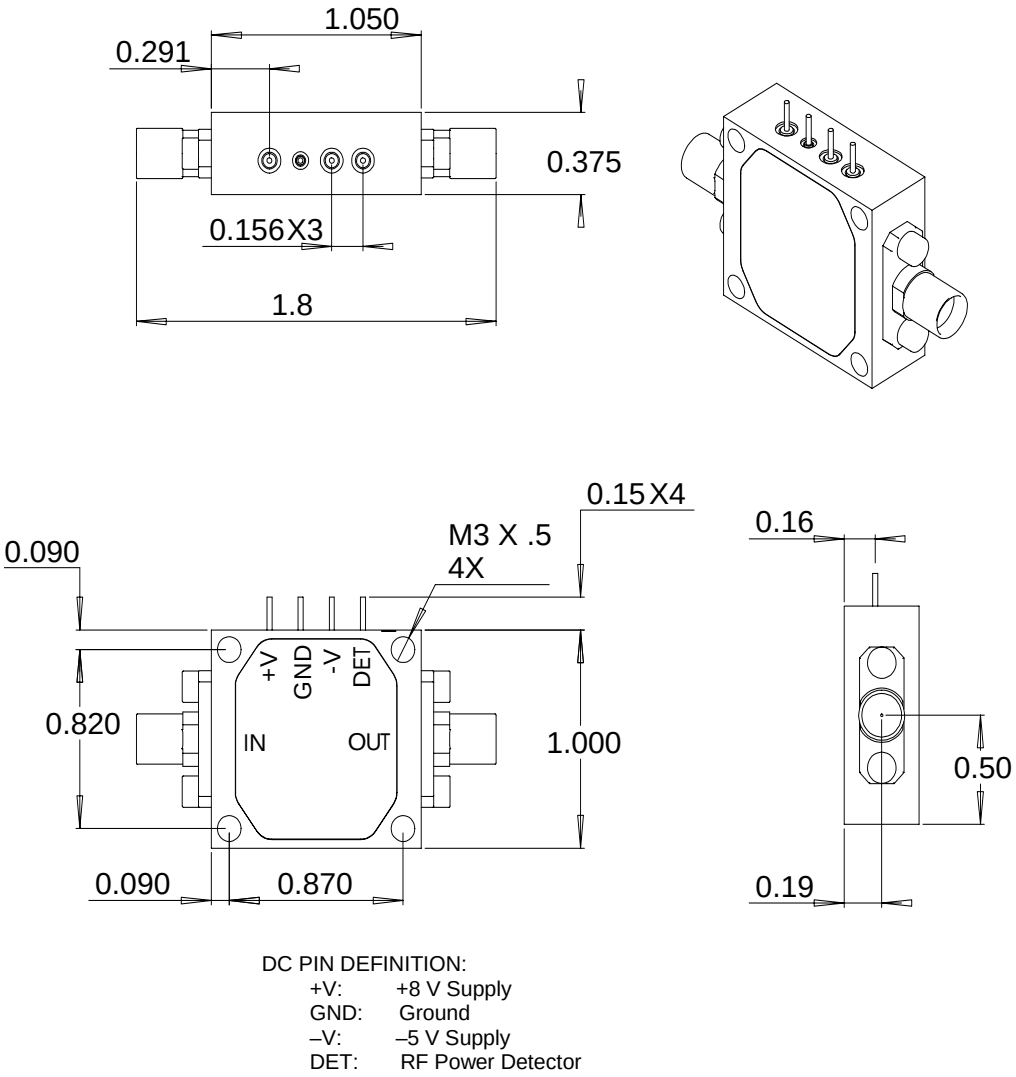


Typical S11 – Input Return Loss



Typical S22 – Output Return Loss

5867 Mechanical Dimensions



DC PIN DEFINITION:

+V:	+8 V Supply
GND:	Ground
–V:	–5 V Supply
DET:	RF Power Detector

Ordering Information

Part #: 5867-107

Where 107 denotes connector configuration of RF input SMA jack, RF output SMA jack, solder pins.

Other connector configurations may be available upon request.