



## MODEL 5887

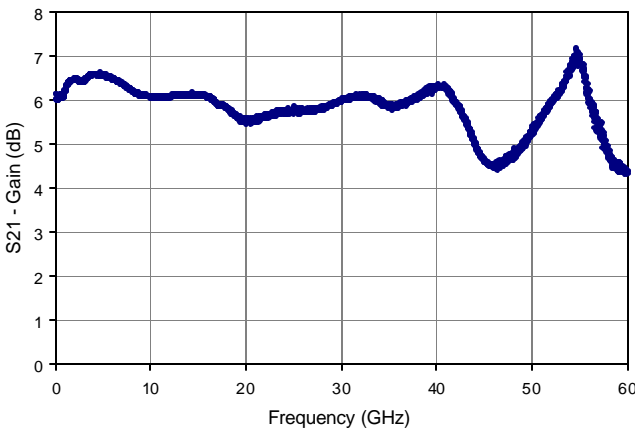
**60 GHz  
LINEAR AMPLIFIER**

- **Broadband linear gain amplifier (6 dB gain)**
- **60 GHz bandwidth with excellent gain flatness**
- **Lower 3 dB frequency of 15 kHz**
- **Low deviation from linear phase ( $\pm 3$  degrees)**
- **1 dB compression point of 11 dBm**
- **RF power detection**

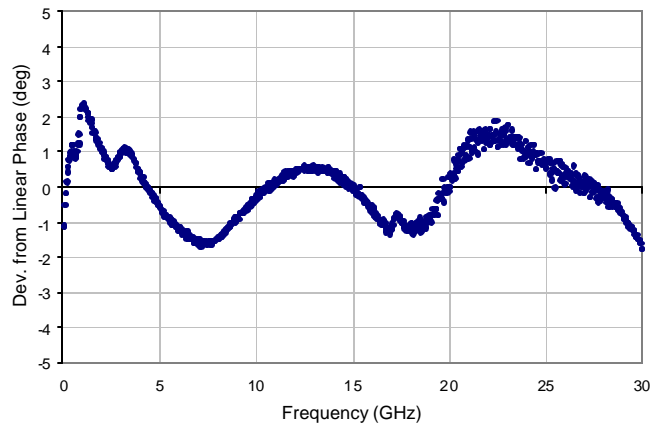


The Picosecond Pulse Labs Model 5887 is a broadband linear amplifier intended for use amplifying signals with a minimum amount of distortion. The 5887 demonstrates exceptional gain flatness and low deviation from linear phase while providing a bandwidth of 15 kHz to 60 GHz. This amplifier is ideal for use as a general purpose broadband linear amplifier or as a linear gain block in applications such as 40 Gb/s fiber optic receiver channels.

### Typical Measurements



**S21 - Gain**



**Deviation from Linear Phase**



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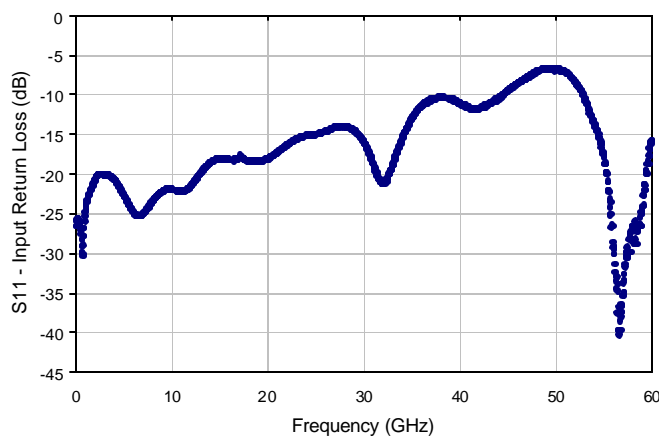
### 5887 Electrical Specifications

PARAMETER	SYMBOL	UNITS	MIN	TYPICAL	MAX	COMMENTS
Gain	$S_{21}$	dB	5	6	7	
Upper 3 dB Frequency		GHz	50	60		3dB roll-off point
Lower 3 dB Frequency		kHz		15	30	3dB roll-off point
Gain Flatness		dB		$\pm 0.5$	$\pm 0.75$	50 MHz < f < 25 GHz
Deviation from Linear Phase		deg		$\pm 3$	$\pm 5$	50 MHz < f < 30 GHz
Characteristic RF Impedance		Ohms		50		
Input Return Loss 50 kHz < f < 10 GHz 10 GHz < f < 30 GHz	$S_{11}$	dB		-20 -15	-15 -10	
Output Return Loss	$S_{22}$	dB		-12	-10	100 MHz < f < 30 GHz
Noise Figure	NF	dB		7		f = 20 GHz
Output Power at 1 dB Gain Compression		dBm		11		
Power Detector Output Bandwidth (video)		KHz		20		
Power Detector Output		$V_{DC}$	3.4	4.0	4.6	With 1 $V_{pp}$ RF output

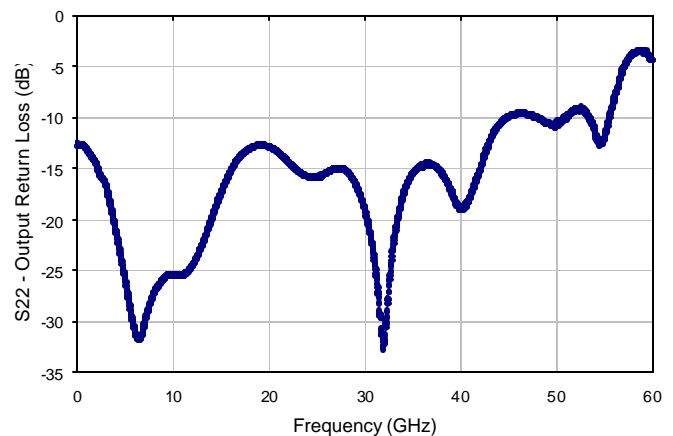
### 5887 Operating Specifications

PARAMETER	SYMBOL	UNITS	MIN	TYPICAL	MAX	COMMENTS
Maximum allowed Input		dBm			11	Damage threshold
DC Voltage Supply (pos)	$+V_{DC}$	$V_{DC}$	9.5	10	10.5	Typical 90 mA
DC Voltage Supply (neg)	$-V_{DC}$	$V_{DC}$	-5.5	-5	-4.5	Typical 10 mA
Power Dissipation	$P_{diss}$	W		1.0	1.5	
Input DC Bias Range	$V_{bias}$	$V_{DC}$	-8		+8	Input is AC coupled
Output DC Bias Range	$V_{bias}$	$V_{DC}$	-2		+14	Output is AC coupled
Operating Temperature	$T_{CASE}$	$^{\circ}C$	0		75	Case Temperature
Storage Temperature	$T_{CASE}$	$^{\circ}C$	-40		125	Case Temperature

Static sensitive device, limited 30-day warranty.



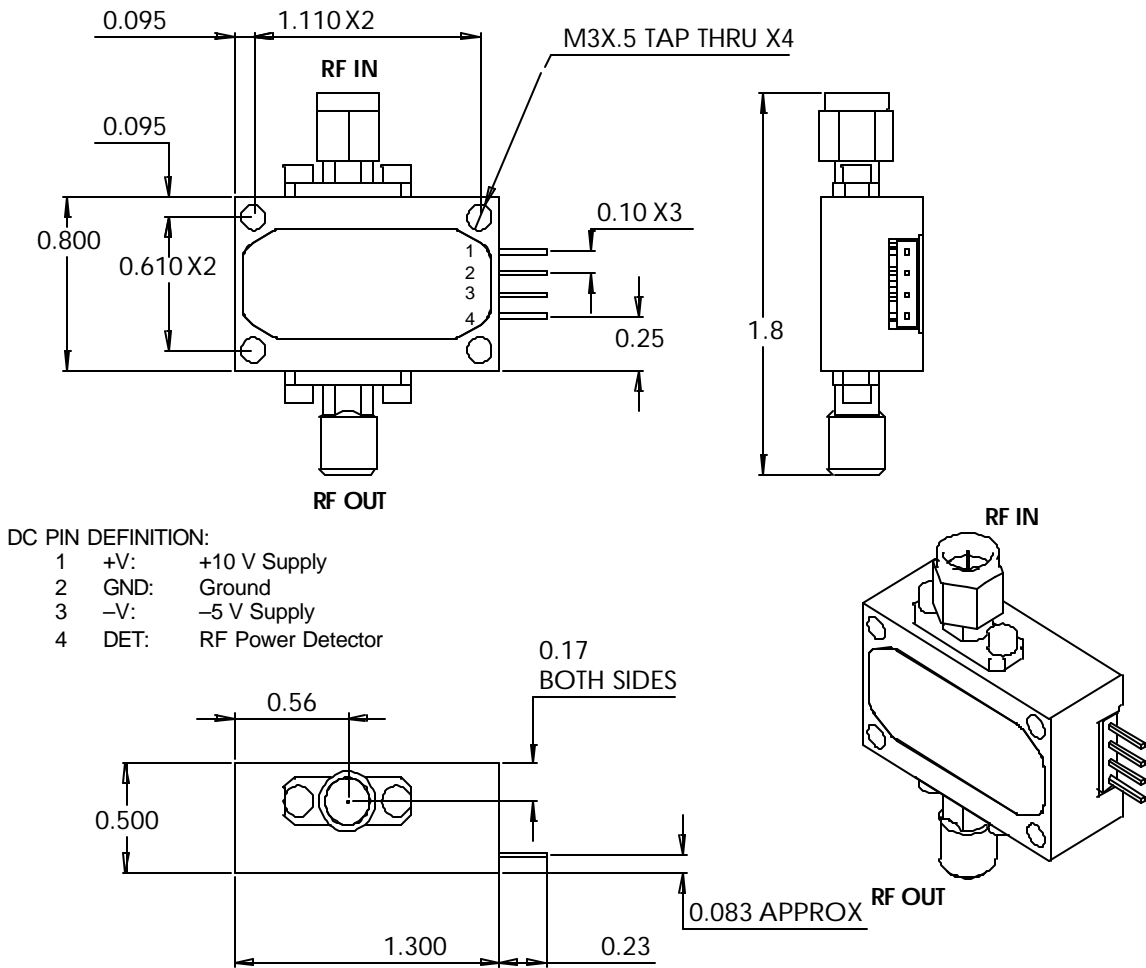
Typical S11 – Input Return Loss



Typical S22 – Output Return Loss



**5887 Mechanical Dimensions**



**Ordering Information**

Part #: 5887-305

Where 305 denotes connector configuration of RF input 1.85 mm plug, RF output 1.85 mm jack, solder pins.

Other connector configurations may be available upon request.