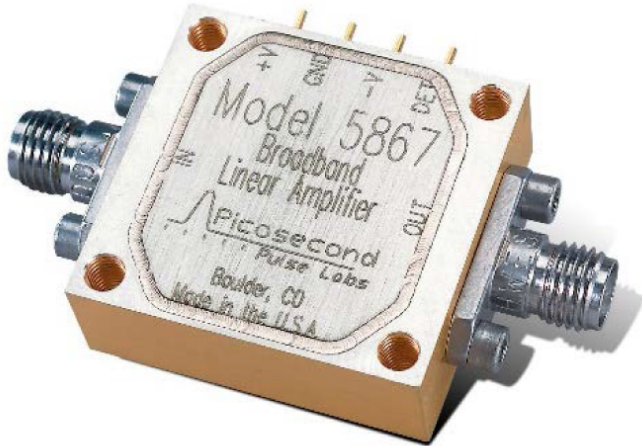


15 GHz Linear Amplifier

PSPL5867 Datasheet



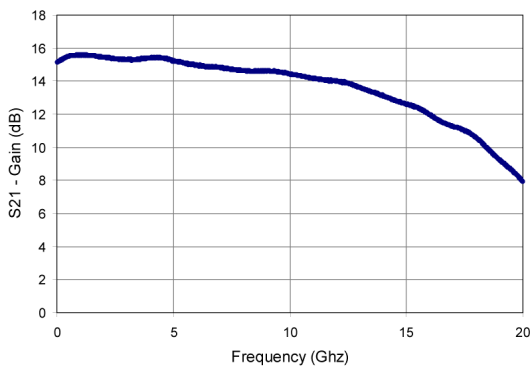
The PSPL5867 is a broadband linear amplifier intended for use amplifying signals with a minimum amount of distortion. The PSPL5867 demonstrates exceptional gain flatness and low deviation from linear phase while providing a bandwidth of 10 kHz to 15 GHz. This amplifier is ideal for use as a linear gain block in applications such as 12.5 Gb/s fiber optic receiver channels.

Key performance specifications

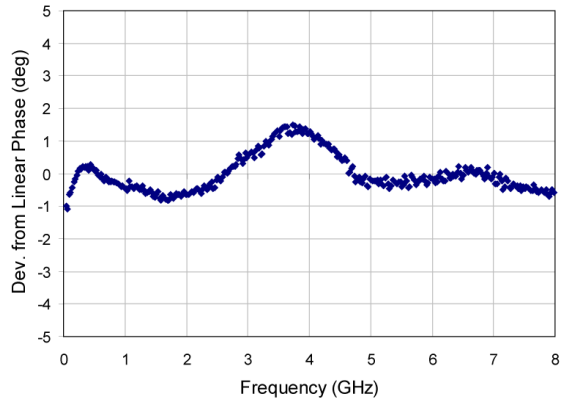
- Broadband linear amplifier with 15 dB gain
- 10 kHz to 15 GHz bandwidth
- Low deviation from linear phase (± 3 degrees)
- 1 dB compression point of 13 dBm
- RF power detection

Typical performance

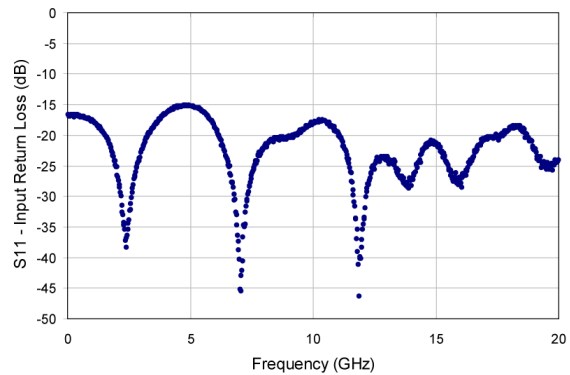
The following figure shows the S_{21} -Gain.



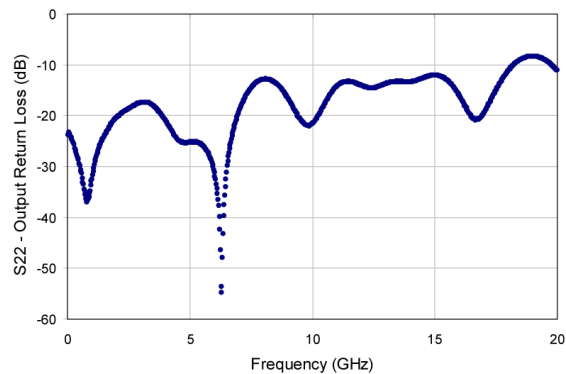
The following figure shows the deviation from linear phase.



The following figure shows the input return loss.



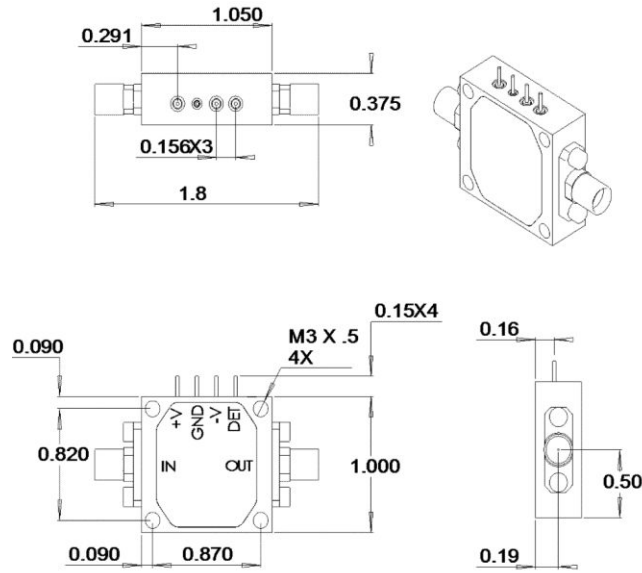
The following figure shows the output return loss.



Specifications

Parameter	Symbol	Units	Minimum	Typical	Maximum	Comments
Impedance	Z	Ohms		50		
Upper 3 dB frequency	$f_{c,h}$	GHz	14	15		3 dB roll-off point
Lower 3 dB frequency	$f_{c,l}$	kHz		10	20	3 dB roll-off point
Small signal gain	S_{21}	dB	13	15	16	Avg. at 1 GHz and 2 GHz
Gain flatness		dB		+/-0.3	+/-0.5	50 MHz < f < 7 GHz
Deviation from linear phase		deg		+/-3	+/-5	50 MHz < f < 8 GHz
Return loss, input	S_{11}	dB			-10	50 MHz < f < 20 GHz
Return loss, output	S_{22}	dB			-10 -9.5	50 MHz < f < 14 GHz 14 GHz ≤ f < 16 GHz
Eff. input RMS noise voltage		μV rms		99		
Noise figure	NF	dB		5.0	7.0	f > 50 MHz
Maximum power out (-1 dB gain comp)		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
Polarity	Inverting					
Coupling	AC, input and output					
Supply voltage (+)	+ V_{DC}	V_{DC}	7.5	8	8.5	
Supply voltage (-)	- V_{DC}	V_{DC}	-5.5	-5	-4.5	
Supply current (+)	+ I_{DC}	mA		105		
Supply current (-)	- I_{DC}	mA		7		
Power dissipation	P_{diss}	W		1.0	1.5	
Maximum allowed input		dBm			15	Input damage threshold
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}	Deg C	0		75	Case temperature
Storage temperature	T_{stor}	Deg C	-40		125	
RF connectors	SMA jacks (f)					
DC connector	Solder pins					
Warranty	One year					

Mechanical dimensions



Ordering information

Models

PSPL5867 LINEAR AMPLIFIER, 15 GHz

Options

SMAJJ SMA jacks (f) on input and output

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