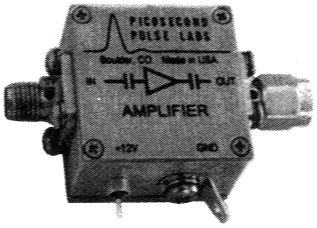
Model 5810B
Broadband Amplifier

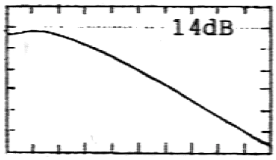
• 145 ps Risetime • 2 GHz Bandwidth



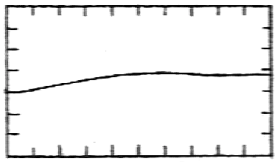
The 5810B Broadband Amplifier is an excellent low cost choice for either pulse or RF applications. It is AC-coupled and is extremely broadband, covering 5 ½ decades from 6 kHz to 2 GHz. It has a clean transient response and smooth gain vs. frequency response. This is a stable, 50 Ω amplifier, and several can be connected in cascade for higher gains. This amplifier is packaged in a convenient, small metal module with SMA connectors and a built-in bias regulator. If you require higher bandwidths and faster risetimes, please see the data sheet for PSPL's 5800 Series Ultra-Broadband Amplifiers.

Gain min. limit	13 dB 11 db	**Isolation**	20 dB
Polarity	inverting	**Return Loss** input output	35 dB 27 dB
Risetime (10-90%)	145 ps	**TDR Refl.** input output	+1 % -4 %
BandWidth (-3 dB) min. limit	2 GHz 1.7 GHz	**DC Voltage** limits	12 V 7-15 V
Low Freq. (-3 dB)	6 kHz	**DC Current**	40 mA
Max. Power Out (-1 dB gain comp)	+9 dBm (1.8 Vptp)	**Temp Coeff - Gain**	-0.005 dB/C
Noise Figure	5 dB	**Temp Coeff - BW**	-0.08%/C
Temperature	0 C to +50 C ambient operating. -25 C to +90 C ambient storage		
Max. Input	+10 dBm (cw). 1 Volt peak pulse		
Dimensions	1.75 " x 1.25" x 0.63" including connectors. Case is 1 "x 1" x 0.63" (2.5 x 2.5 x 1.6 cm)		
Connectors	RF in = SMA jack (f), RF out = SMA plug (m), DC in = solder pin		
Warranty	Static-sensitive device. Limited 30-day warranty		

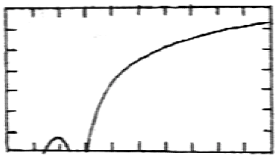
Forward Gain,
2dB/div, linear sweep
from 10 MHz to 5 GHz



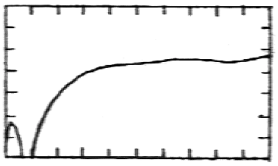
Reverse Isolation, 5dB/div



Input Return Loss, 5dB/div

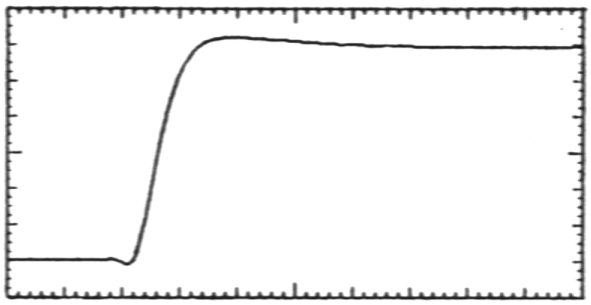


Output Return Loss, 5dB/div



Pulse Response to 35 ps falltime input step. 200 ps/div.
Measured with HP-54121A, 20 GHz digital sampling oscilloscope.

145 ps risetime



Ordering Information

Model Number
5810B-114

Notes

[1] Parameters listed in table and shown on plots are typical values. Guaranteed at +12 V and 23 C only when max./min. limits are given. **[2]** All parameters measured with +12 V DC power at +23 C ambient temperature. **[3]** Gain, return loss, isolation, noise figure and max. power output all measured at 100 MHz. **[4]** 35 ps risetime step responses and TDR measured using an HP-54124A, 20 GHz oscilloscope. **[5]** Frequency responses measured using a Wiltron 5447A, 10 MHz - 20 GHz, network analyzer.
[6] Static sensitive! Avoid static discharges. Do not exceed max. input limits.

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