

- 1.0 to 4000 MHz bandwidth
- Rise times as low as 200 ps
- Gain as high as 40 dB

AV-130 SERIES

- Noise figures as low as 1.7 dB
- For pulse or CW applications
- Connectorized modules

The AV-130 series of AC-coupled miniature amplifiers is intended for amplifying nanosecond pulses and CW signals in the frequency range of 1.0 MHz to 4000 MHz.

Model AV-131 features a gain of 40 dB with a 3 dB bandwidth of 300 MHz while 500 MHz Models AV-131A and AV-131B provide gains of 30 dB and 40 dB with noise figures of 1.7 dB and 3.0 dB respectively. Model AV-133B features a 2 dB noise figure, a gain of 30 dB and a 1.0 GHz bandwidth. For higher frequencies,

Avtech offers Model AV-134 (2.0 GHz, 10 dB), Model AV-135A (2.8 GHz, 26 dB), Model AV-135B (2.5 GHz, 34 dB) and Model AV-136A (4.0 GHz, 8.5 dB).

Models without the -PS suffix require +5V or +15V prime power, and come in a miniature module format. Models with the -PS suffix come in a larger bench-top instrument format, and operate from 100-240V, 50-60 Hz prime power. Contact Avtech for your special requirements.

Model:	AV-131 AV-131-PS	AV-131A AV-131A-PS	AV-131B AV-131B-PS	AV-133B AV-133B-PS	AV-134 AV-134-PS	AV-135A AV-135A-PS	AV-135B AV-135B-PS	AV-136A AV-136A-PS
Small signal bandwidth: (-3 dB)	1-300 MHz	1-500 MHz	1-500 MHz	1-1000 MHz	1-2000 MHz	1-2800 MHz	1-2500 MHz	1-4000 MHz
Gain (minimum):	40 dB	30 dB	40 dB	30 dB	10 dB	26 dB	34 dB	8.5 dB
in dB:	40 dB	30 dB	40 dB	30 dB	10 dB	26 dB	34 dB	8.5 dB
voltage gain (V/V):	-100	+32	-100	+32	-3.2	+20	-48	-2.7
polarity:	inverting	non-inverting	inverting	non-inverting	inverting	non-inverting	inverting	inverting
Rise and fall times (20%-80%) ¹⁾ :	1 ns	1 ns	1.0 ns	0.4 ns	0.2 ns	0.17 ns	0.28 ns	0.28 ns
Input impedance:	50 Ohms							
Peak output: (to 50Ω)	1 V	0.4 V	1 V	0.4 V	0.8 V	0.2 V	1.0 V	1.0 V
P _{1dB} power out at 1 dB gain compression:	18 dBm	11 dBm	18 dBm	11 dBm	≥ 7 dBm	1 dBm	16 dBm	16 dBm
1P ₃ third order intercept point:	28 dBm	23 dBm	28 dBm	23 dBm	17 dBm	10 dBm	30 dBm	30 dBm
Noise figure:	7 dB	1.7 dB	3 dB	2 dB	7 dB	2.8 dB	2.8 dB	6.5 dB
Voltage equivalent:	25 uV	12 uV	16 uV	20 uV	44 uV	30 uV	32 uV	60 uV
Min. input pulse width:	1 ns	1 ns	1 ns	600 ps	500 ps	500 ps	500 ps	300 ps
Max. input pulse width:	500 ns							
Prime power: -PS:	100 - 240 Volts, 50 - 60 Hz							
Modules:	+5V, 0.25A		+15V, 0.25A					
Connectors:	SMA							
Dimensions:	Modules: 36 mm x 28 mm x 59 mm (1.4" x 1.1" x 2.3"), Avtech style B. -PS units: 100 x 215 x 375 mm (3.9" x 8.5" x 14.8")							

1) Measured for a pulse from 0V to maximum positive voltage output, between the 20% and 80% amplitude points.

- DC to 800 MHz bandwidths
- Rise times as low as 700 ps
- DC-coupled

AV-141 SERIES

- Gain as high as 20 dB
- Peak output amplitude to 5 Volts
- Connectorized modules

The AV-141 series of DC-coupled pulse amplifiers is intended for amplifying nanosecond pulses with bandwidths up to 800 MHz.

Model AV-141C1 offers 20 dB gain (×10) and can generate ±3 Volts into 50 Ω, with 800 ps rise time and DC-800 MHz bandwidth. Models AV-141F and AV-141G provide up to ±5V to 50 Ω loads (or ±10V into high impedance loads.) The AV-141F provides a gain of 20 dB (×10) with DC-75 MHz bandwidth and rise times of 4 ns for a 5 V step. Model AV-141G features DC-20 MHz bandwidth with 10 dB gain (×3.2), outputs to ±5 V to 50 Ω, and an input resistance of 10 kΩ.

The unity gain buffer amplifier Model AV-141J offers ≥ 1 MΩ input resistance, and can generate ±10V into 50 Ω loads with 10 ns rise times. The AV-141K is a faster version, with 5 ns rise times.

Models without the -PS suffix require ±15V or ±24V prime power, and come in a miniature module format. Models with the -PS suffix come in a larger bench-top instrument format, and operate from 100-240V, 50-60 Hz prime power.

See the AV-143 series of linear amplifiers or the AV-144 series of non-linear amplifiers for output amplitudes to 30V. Contact Avtech for your special requirements (info@avtechpulse.com).

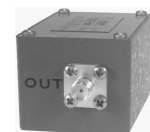
Model:	AV-141C1 AV-141C1-PS	AV-141F AV-141F-PS	AV-141G AV-141G-PS	AV-141J AV-141J-PS	AV-141K AV-141K-PS
Bandwidth:	DC - 800 MHz	DC - 75 MHz	DC - 20 MHz	DC - 50 MHz	DC - 75 MHz
Gain:	20 dB	20 dB	10 dB	0 dB	0 dB ²⁾
in dB:	20 dB	20 dB	10 dB	0 dB	0 dB ²⁾
voltage gain (V/V):	+10	+10	+3.2	+1	+1 ²⁾
Rise/fall time ¹⁾ :	800 ps	4 ns	15 ns	10 ns	5 ns
Input resistance:	50 Ω	50 Ω	≥ 10 kΩ	≥ 1 MΩ	
Peak output: (to 50 Ω)	±3 V	±5 V		±10 V	
Output resistance:	3 Ω, approx.	50 Ω		3 Ω, approx.	5 Ω, approx.
Min. input pulse width:	1.5 ns	10 ns	30 ns	20 ns	10 ns
Max. input pulse width:	No limit.				
Equivalent input noise:	4 nV / √Hz			6 nV / √Hz	
Connectors:	SMA				
Prime power: -PS:	100 - 240 Volts, 50 - 60 Hz				
Modules:	±15V, 100 mA	±24V, 200mA		±24V, 300mA	
Dimensions: -PS:	100 mm x 215 mm x 375 mm (3.9" x 8.5" x 14.8")				
Modules:	Style B, 1.4" x 1.1" x 2.3"	Style A, 1.7 x 2.6 x 4.3"	Style B, 1.4" x 1.1" x 2.3"		Style A, 1.7x2.6x4.3"

1) Measured for a pulse from 0V to maximum positive voltage output, between the 20% and 80% amplitude points.

2) Gain into an open circuit. The gain falls slightly to 0.9 (or -1 dB) when operating into a 50Ω load, due to the 5Ω output resistance.



Style A Module



Style B Module