

## Keysight RF and Microwave Amplifiers

Keysight Technologies Inc. amplifiers offer ultra-broad bandwidths – such as 0.01 to 26.5 GHz, 0.045 to 50 GHz, and ranges in between. These high-performance amplifiers eliminate crossover networks and multiple power supplies from multiple narrow band amplifiers. Excellent noise figure and high gain, up to 30 dB, significantly reduces test system noise figure, thus increasing the dynamic range. High output power improves recovery of system losses and boost available power in ATE systems.



Preamplifier



System amplifier



System amplifier

### Key features

- Broadband performance up to 50 GHz optimizes the operating range of your test systems
- Excellent noise figure and high gain significantly reduce overall test system noise figure
- High output power boosts available power for measurements

### Recommended power supply

- Keysight 87421A power supply, 12 VDC, 15 VDC, 25 W
- Keysight 87422A power supply, 12 VDC, 15 VDC, 70 W

## Product specifications

Model	Frequency range (GHz)	Noise figure (dB) (typical)	Output power at P <sub>sat</sub> (dBm)	Output power at P <sub>1dB</sub> (dBm)	Gain (dB) (min)	VSWR	Isolation (dB)	Bias (nom)	RF connectors (input/output)
<b>Preamplifiers</b>									
87405B	0.01 to 4 GHz	5 at 4 GHz	7 at 4 GHz	8 at 4 GHz	22	1.9	40	+15 V at 105 mA	Type N (m.f)
87405C	0.1 to 18 GHz	6 at 4 GHz 4.5 at 18 GHz	17 at 18 GHz	15 at 4 GHz 14 at 18 GHz	25	1.92	50	+15 V at 140 mA -15 V at 3 mA	Type N (m.f)
N4985A-S30 <sup>1</sup>	0.00001 to 30 GHz	5 at 2 to 30 GHz	22 at 26 GHz	N/A	30 at 26 GHz	1.92	N/A	AC power supply included	2.92 mm (f)
N4985A-S50 <sup>2</sup>	0.00001 to 50 GHz	5 at 2 to 30 GHz 6 at 20 to 40 GHz	17 at 50 GHz	N/A	27 at 45 GHz	2.32	N/A	AC power supply included	2.92 mm (f)
<b>System amplifiers</b>									
87415A	2 to 8 GHz	13 at 8 GHz	26 at 8 GHz	23 at 8 GHz	25	3	60	+12 V at 900 mA	SMA (f)
83006A	0.01 to 26.5 GHz	13 at 0.1 GHz 8 at 18 GHz 13 at 26.5 GHz	18 at 10 GHz 16 at 20 GHz 14 at 26.5 GHz	13 at 20 GHz 10 at 26.5 GHz	20	3.2	65	+12 V at 450 mA -12 V at 50 mA	3.5 mm (f)
83017A <sup>3</sup>	0.5 to 26.5 GHz	8 at 20 GHz 13 at 26.5 GHz	20 at 20 GHz 15 at 26.5 GHz	18 at 20 GHz 13 at 26.5 GHz	25	2.6	65	+12 V at 700 mA -12 V at 50 mA	3.5 mm (f)
83018A <sup>3</sup>	2 to 26.5 GHz	10 at 20 GHz 13 at 26.5 GHz	24 at 20 GHz 21 at 26.5 GHz	22 at 20 GHz 17 at 26.5 GHz	27 dB at 20 GHz 23 dB at 26.5 GHz	2.2	55	+12 V at 2 A -12 V at 50 mA	3.5 mm (f)
83020A <sup>3</sup>	2 to 26.5 GHz	10 at 20 GHz 13 at 26.5 GHz	30 at 20 GHz 25 at 26.5 GHz	27 at 20 GHz 23 at 26.5 GHz	30 dB at 20 GHz 27 dB at 26.5 GHz	2.2	55	+15 V at 3.2 A -15 V at 50 mA	3.5 mm (f)
N4985A-P15	0.01 to 50 GHz	12 at 50 GHz	20 at 50 GHz	17 at 50 GHz	22 at 50 GHz	3.01	50	AC power supply included	2.4 mm (f)
83050A	2 to 50 GHz	6 at 26.5 GHz 10 at 50 GHz	20 at 40 GHz 17 at 50 GHz	15 at 40 GHz 13 at 50 GHz	21	2.1	50	+12 V at 830 mA -12 V at 50 mA	2.4 mm (f)
N4985A-P25	2 to 50 GHz	12 at 50 GHz	20 at 50 GHz	17 at 50 GHz	22 at 50 GHz	3.01	50	AC power supply included	2.4 mm (f)
83051A	0.045 to 50 GHz	12 at 2 GHz 6 at 26.5 GHz 10 at 50 GHz	12 at 45 GHz 10 at 50 GHz	8 at 45 GHz 6 at 50 GHz	23	2.2	50	+12 V at 425 mA -12 V at 50 mA	2.4 mm (f)

1. Option OA3 is available for optical application tuning.

2. Option OA5 is available for optical application tuning.

3. 83017A, 83018A and 83020A include internal directional detectors with BNC (f) DC connectors for external leveling applications.

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Keysight Services helps you improve productivity and product quality with our comprehensive service offerings of one-stop calibration, repair, asset management, technology refresh, consulting, training, and more.

For more details on Keysight amplifiers and ordering information see the “Keysight RF and Microwave Amplifiers”, literature number 5989-6949EN

For more information on Keysight Amplifiers, please visit [www.keysight.com/find/amplifiers](http://www.keysight.com/find/amplifiers)

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