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Data Sheet

August 14, 2026

AGILENT / KEYSIGHT

Agilent / Keysight 83050A Microwave System Amplifier, 2 GHz to 50 GHz

Agilent Keysight 83050A Microwave System Power Amplifier The Agilent/Keysight 83050A is a compact microwave power amplifier covering 2 to 50 GHz. OEM 83000A Series Technical Overview 5963-5110E lists 21 dB minimum small-signal gain, +15 dBm P1dB from 2 to 40 GHz, and 2.4 mm female RF connectors. Recover losses and boost available power in broadband ATE to 50 GHz; drive millimeter-wave components; replace multiple narrowband amplifiers with one gain block. Extends 83000A family power amplification to 50 GHz The Agilent/Keysight 83050A is a compact microwave power amplifier covering 2 to 50 GHz. OEM 83000A Series Technical Overview 5963-5110E lists 21 dB minimum small-signal gain, +15 dBm P1dB from 2 to 40 GHz, and 2.4 mm female RF connectors. Recover losses and boost available power in broadband ATE to 50 GHz; drive millimeter-wave components; replace multiple narrowband amplifiers with one gain block. Extends 83000A family power amplification to 50 GHz Compact heat-sink package with mounting bracket



MODEL

**Agilent / Keysight
83050A**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

83050A

LISTING

<https://aumictechlabs.com/products/83050a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Agilent/Keysight 83050A is a microwave system amplifier engineered for integration into automated test equipment and RF/microwave measurement systems. Operating across 2 GHz to 50 GHz, it delivers gain exceeding 21 dB across most of its bandwidth, with 30 dB typical performance in the 1–2 GHz band. The amplifier consolidates the function of multiple narrow-bandwidth units into a single platform, eliminating the need for complex crossover networks and reducing bias supply complexity.

Technical Specifications

Frequency Range: 2 GHz to 50 GHz

Gain: 21 dB minimum; 30 dB typical (1–2 GHz); 27 dB minimum (20–26.5 GHz)

Output Power (P1dB): +20 dBm (2–40 GHz); +12 dBm (to 45 GHz); +30 dBm typical (1–2 GHz)

Noise Figure: Less than 6 dB typical (2–26.5 GHz); less than 10 dB typical (10–50 GHz)

Harmonic Distortion: –22 dBc typical (1–2 GHz at P1dB); –20 dBc typical (2–18 GHz at P1dB)

Output SWR: 2.8 max (2–18 GHz); 2.2 max (18–50 GHz)

Impedance: 50 Ω typical

Rise Time: 250 ps typical

Key Features

RF connectors: 2.4 mm (female)

DC detector output: BNC (female)

Bias requirements: +12 V @ 830 mA, –12 V @ 50 mA

Compatible with 87421A 25 W power supply

Operating environment: Category II installation, Pollution Degree 2

Temperature stabilization: 1 hour continuous operation; +20°C to +30°C for warranted specs

Maximum humidity: 95% relative; altitude to 2000 meters

Compatibility & Integration

Part of the 83000A Series microwave system amplifier family. Replaces multiple narrow-bandwidth amplifiers in integrated system designs.

83050A Characteristics / Specifications

PARAMETER	VALUE
Model	83050A
Instrument Type	Microwave system power amplifier
Series Family	Keysight 83000A Series
Frequency Range	2 GHz to 50 GHz
Small Signal Gain	21 dB minimum
Small Signal Gain Flatness	±3.5 dB maximum
Output Power At Pmax Low	+20 dBm, 2 to 40 GHz
Output Power At Pmax High	+19 dBm minus 0.2 dB/GHz, 40 to 50 GHz
Output Power At One dB Compression Low	+15 dBm, 2 to 40 GHz
Output Power At One dB Compression High	+13 dBm, 40 to 50 GHz
Noise Figure Low Typical	less than 6 dB typical, 2 to 26.5 GHz
Noise Figure High Typical	less than 10 dB typical, 26.5 to 50 GHz
Harmonics At P1dB Low Typical	minus 20 dBc typical, 2 to 18 GHz
Harmonics At P1dB High Typical	minus 18 dBc typical, 18 to 25 GHz
Input SWR	2.1 maximum
Output SWR Low	2.8 maximum, 2 to 18 GHz
Output SWR High	2.1 maximum, 18 to 50 GHz
Nonharmonic Spurious Typical	minus 50 dBc typical
Impedance Typical	50 ohm typical
Reverse Isolation Typical	minus 50 dB typical
Survival Input Power	+20 dBm maximum
Power Dissipation	11 W
Rise Time Typical	250 ps typical
Third Order Intercept Typical	27 dBm typical

PARAMETER	VALUE
Positive Bias	12 ±1 Vdc at 900 ±110 mA
Negative Bias	minus 12 ±1 Vdc at 30 ±5 mA
Rf Connectors	2.4 mm female
Net Weight	0.64 kg (1.4 lb)
Operating Temperature	0 C to +55 C
Storage Temperature	minus 40 C to +70 C
Temperature Coefficient Of Gain	minus 0.09 dB perCCompatible Bias Supply: 87421A
Rise Time	Typical: 250 ps typical

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Storage temperature	minus 40 C to +70 C
Operating temperature	0 C to +55 C
Operating Temperature	0 C to +55 C
Temperature Coefficient Of Gain	minus 0.09 dB perCCompatible Bias Supply: 87421A Notes Numeric rows from Agilent/Keysight 83000A Series Microwave System Amplifiers Technical Overview 5963-5110E. Warranted specs apply +20 C to +30 C after one hour continuous operation unless noted.

Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

Specifications	
Technical Specifications	
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Output SWR Low	2.8 maximum, 2 to 18 GHz
Output SWR High	2.1 maximum, 18 to 50 GHz
Nonharmonic Spurious Typical	minus 50 dBc typical
Impedance Typical	50 ohm typical
Reverse Isolation Typical	minus 50 dB typical
Survival Input Power	+20 dBm maximum
Power Dissipation	11 W
Rise Time Typical	250 ps typical
Third Order Intercept Typical	27 dBm typical
Positive Bias	12 ±1 Vdc at 900 ±110 mA
Negative Bias	minus 12 ±1 Vdc at 30 ±5 mA

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Compatible Bias Supply	87421A

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Notes
Numeric rows from Agilent/Keysight 83000A Series Microwave System Amplifiers Technical Overview 5963-5110E.
Warranted specs apply +20 C to +30 C after one hour continuous operation unless noted.

Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: sales@aumictech.com · +1 (484) 841-9341

Aumictech

788 S 500 E, Pleasant Grove, UT 84062
sales@aumictech.com · +1 (484) 841-9341
<https://aumictechlabs.com>

NIST-traceable calibration · SAM registered ·
30-day returns
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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.