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Data Sheet

August 14, 2026

AGILENT / KEYSIGHT

Agilent / Keysight 83017A Microwave System Amplifier, 0.5 to 26.5 GHz

Agilent Keysight 83017A Microwave System Amplifier The Agilent/Keysight 83017A is a compact microwave system amplifier covering 500 MHz to 26.5 GHz. OEM 83000A Series Technical Overview 5963-5110E lists 25 dB minimum small-signal gain, +18 dBm minimum P1dB from 0.5 to 20 GHz, and an integral directional detector for external leveling. Level source power at a remote test port via ALC feedback; recover ATE path losses; preamplify noise-figure and spectrum-analyzer measurements to 26.5 GHz. Integral directional detector with BNC detected output The Agilent/Keysight 83017A is a compact microwave system amplifier covering 500 MHz to 26.5 GHz. OEM 83000A Series Technical Overview 5963-5110E lists 25 dB minimum small-signal gain, +18 dBm minimum P1dB from 0.5 to 20 GHz, and an integral directional detector for external leveling. Level source power at a remote test port via ALC feedback; recover ATE path losses; preamplify noise-figure and spectrum-analyzer measurements to 26.5 GHz. Integral directional detector with BNC detected output External leveling of microwave sources through ALC



MODEL

**Agilent / Keysight
83017A**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

83017A

LISTING

<https://aumictechlabs.com/products/83017a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Agilent/Keysight 83017A is a wideband microwave system amplifier spanning 0.5 to 26.5 GHz, engineered for integration into Automatic Test Equipment (ATE) systems and RF/microwave applications requiring signal path loss compensation and power boosting. The ultra-broad bandwidth eliminates the need for multiple narrower-band amplifiers, crossover networks, and separate bias supplies, simplifying system architecture and reducing component count.

Technical Specifications

Frequency Range: 0.5 GHz to 26.5 GHz

Small Signal Gain: 25 dB minimum; 27 dB minimum from 2–20 GHz; 23 dB minimum from 20–26.5 GHz

Gain Flatness: ± 5 dB maximum from 0.5–2 GHz; ± 3 dB maximum from 5–26.5 GHz; ± 5 dB maximum from 2–26.5 GHz

Output Power (1 dB Compression): 18 dBm minimum from 0.5–20 GHz; 10 dBm minimum from 20–26.5 GHz

Leveled Output Power: ± 1.1 dB flatness at 12 dBm (0.5–26.5 GHz); ± 1.5 dB flatness at 18 dBm (0.5–20 GHz); ± 1.5 dB flatness at 17 dBm (1–26.5 GHz)

Noise Figure: Less than 8 dB typical from 0.5–20 GHz; less than 13 dB typical from 20–26.5 GHz

Harmonics: -20 dBc typical from 0.5–11 GHz at P_1

dB Third Order Intercept: 30 dBm typical at 2 GHz; 20 dBm typical at 26.5 GHz

Input/Output VSWR: 2.6:1

Power Dissipation: 9 W

Key Features

- Internal directional detectors enable external leveling and closed-loop control
- Detector output provides signal proportional to output power
- 3.5 mm female RF connectors
- Low-profile heat sink with integral mounting bracket
- Compact form factor

Bias & Power Supply Requirements: +12 V @ 700 mA, -12 V @ 50 mA

Compatible Power Supplies: Keysight/Agilent 87421A (25 W) and 87422A (70 W)

Typical Applications

- Automatic Test Equipment (ATE) systems
- System loss recovery in RF/microwave signal paths
- Sensitivity and dynamic range enhancement in receiving systems

83017A Characteristics / Specifications

PARAMETER	VALUE
Model	83017A
Instrument Type	Microwave system amplifier
Series Family	Keysight 83000A Series
Frequency Range	0.5 GHz to 26.5 GHz
Small Signal Gain	25 dB minimum
Small Signal Gain Flatness Low	±5 dB maximum, 0.5 to 2 GHz
Small Signal Gain Flatness High	±5 dB maximum, 2 to 26.5 GHz
Output Power At One dB Compression Low	+18 dBm minimum, 0.5 to 20 GHz
Output Power At One dB Compression High	+18 dBm minus 0.75 dB/GHz, 20 to 26.5 GHz
Output Power At Pmax Low Typical	+20 dBm typical, 0.5 to 20 GHz
Output Power At Pmax High Typical	+15 dBm typical, 20 to 26.5 GHz
Leveled Output Power Flatness	±1.1 dB, 0.5 to 26.5 GHz at 12 dBm
Leveled Output Power Flatness Alternate	±1.5 dB, 0.5 to 20 GHz at 18 dBm
Noise Figure Low Typical	less than 8 dB typical, 0.5 to 20 GHz
Noise Figure High Typical	less than 13 dB typical, 20 to 26.5 GHz
Harmonics At P1dB Low	minus 20 dBc, 0.5 to 11 GHz
Input SWR	2.6:1
Impedance Typical	50 ohm typical
Reverse Isolation Typical	minus 65 dB typical
Survival Input Power	+23 dBm maximum
Power Dissipation	9 W
Rise Time Typical	310 ps typical
Third Order Intercept Typical	30 dBm typical at 2 GHz; 20 dBm typical at 26.5 GHz
Positive Bias	12 ±1 Vdc at 780 ±140 mA

PARAMETER	VALUE
Negative Bias	minus 12 $\pm$ 1 Vdc at 20 $\pm$ 2 mA
Rf Connectors	3.5 mm female
Detector Output Connector	BNC female
Detector Sensitivity	15 uV per uW
Detector Polarity	Negative
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 0.1 dB perC Notes Numeric rows from Agilent/Keysight 83000A Series Microwave System Amplifiers Technical Overview 5963-5110E. Do not apply positive bias before negative bias.
Rise Time	Typical: 310 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 0.1 dB perC Notes Numeric rows from Agilent/Keysight 83000A Series Microwave System Amplifiers Technical Overview 5963-5110E. Do not apply positive bias before negative bias.

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	
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PARAMETER	VALUE
Model	83017A
Instrument Type	Microwave system amplifier
Series Family	Keysight 83000A Series
Frequency Range	0.5 GHz to 26.5 GHz
Small Signal Gain	25 dB minimum
Small Signal Gain Flatness Low	±5 dB maximum, 0.5 to 2 GHz
Small Signal Gain Flatness High	±5 dB maximum, 2 to 26.5 GHz
Output Power At One dB Compression Low	+18 dBm minimum, 0.5 to 20 GHz
Output Power At One dB Compression High	+18 dBm minus 0.75 dB/GHz, 20 to 26.5 GHz
Output Power At Pmax Low Typical	+20 dBm typical, 0.5 to 20 GHz
Output Power At Pmax High Typical	+15 dBm typical, 20 to 26.5 GHz
Leveled Output Power Flatness	±1.1 dB, 0.5 to 26.5 GHz at 12 dBm
Leveled Output Power Flatness Alternate	±1.5 dB, 0.5 to 20 GHz at 18 dBm
Noise Figure Low Typical	less than 8 dB typical, 0.5 to 20 GHz
Noise Figure High Typical	less than 13 dB typical, 20 to 26.5 GHz
Harmonics At P1dB Low	minus 20 dBc, 0.5 to 11 GHz
Input SWR	2.6:1
Impedance Typical	50 ohm typical
Reverse Isolation Typical	minus 65 dB typical
Survival Input Power	+23 dBm maximum
Power Dissipation	9 W
Rise Time Typical	310 ps typical
Third Order Intercept Typical	30 dBm typical at 2 GHz; 20 dBm typical at 26.5 GHz
Positive Bias	12 ±1 Vdc at 780 ±140 mA
Negative Bias	minus 12 ±1 Vdc at 20 ±2 mA
Rf Connectors	3.5 mm female

PARAMETER	VALUE
Detector Output Connector	BNC female
Detector Sensitivity	15 uV per uW
Detector Polarity	Negative
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 0.1 dB perC Notes

Numeric rows from Agilent/Keysight 83000A Series Microwave System Amplifiers Technical Overview 5963-5110E.
Do not apply positive bias before negative bias.

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

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NIST-traceable calibration · SAM registered ·
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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.