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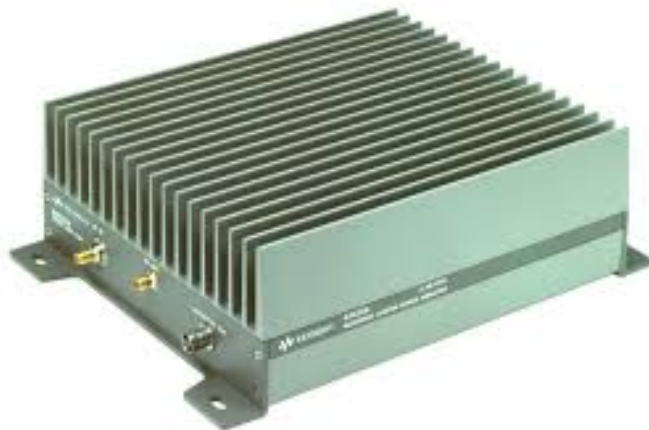
Data Sheet

August 14, 2026

AGILENT / KEYSIGHT

Agilent / Keysight 83020A Microwave System Amplifier, 2 GHz to 26.5 GHz

Agilent Keysight 83020A Microwave System Power Amplifier The Agilent/Keysight 83020A is a 1-watt-class microwave system power amplifier covering 2 to 26.5 GHz. OEM 83000A Series Technical Overview 5963-5110E lists 30 dB minimum small-signal gain from 2 to 20 GHz and +28 dBm minimum P1dB from 2 to 20 GHz, with an integral coupler-detector. Drive high-power devices and millimeter-wave source modules; increase network-analyzer dynamic range; recover large systematic losses in antenna and ATE paths. Standard integral directional detector for external leveling The Agilent/Keysight 83020A is a 1-watt-class microwave system power amplifier covering 2 to 26.5 GHz. OEM 83000A Series Technical Overview 5963-5110E lists 30 dB minimum small-signal gain from 2 to 20 GHz and +28 dBm minimum P1dB from 2 to 20 GHz, with an integral coupler-detector. Drive high-power devices and millimeter-wave source modules; increase network-analyzer dynamic range; recover large systematic losses in antenna and ATE paths. Standard integral directional detector for external leveling



MODEL

**Agilent / Keysight
83020A**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

83020A

LISTING

<https://aumictechlabs.com/products/83020a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Agilent/Keysight 83020A is a broadband microwave system amplifier engineered for automated test equipment and RF/microwave applications from 2 GHz to 26.5 GHz. It delivers 30 dB typical gain to 20 GHz and 27 dB typical gain to 26.5 GHz, with output power exceeding 27 dBm at 1 dB compression to 20 GHz and 23 dBm to 26.5 GHz. The compact form factor and low-profile heat sink enable direct insertion into existing system architectures without redesign.

Technical Specifications

Frequency Range: 2 GHz to 26.5 GHz

Gain: 30 dB typical to 20 GHz 27 dB typical to 26.5 GHz 23 dB minimum to 2 GHz

Output Power (1 dB Compression): Greater than 27 dBm to 20 GHz Greater than 23 dBm to 26.5 GHz

Minimum +24 dBm to 20 GHz Minimum +21 dBm to 26.5 GHz

Maximum Output Power: +30 dBm typical to 2 GHz Up to +30 dBm (optional coupler/detector deletion) Up to +25 dBm (optional coupler/detector deletion)

Noise Figure: Less than 10 dB typical to 20 GHz Less than 13 dB typical to 26.5 GHz Less than 6 dB typical to 26.5 GHz

Input SWR: 3.1:1 maximum; 3:1 typical across 2–26.5 GHz

Output SWR: 7.0:1 typical to 2 GHz 3.2:1 to 18 GHz 2.2:1 to 26.5 GHz

Third Order Intercept: 38 dBm typical (2–20 GHz)

Harmonics: –22 dBc typical (1–2 GHz); –20 dBc typical (2–18 GHz)

Reverse Isolation: –55 dB typical at 1 GHz

Survival Input Power: +23 dBm maximum

Power Dissipation: 24 W or 48 W (configuration dependent)

Key Features

Internal directional detectors on standard configurations for external leveling

Optional coupler/detector deletion achieves maximum output power (+30 dBm to 2 GHz)

Single amplifier replaces multiple narrow-bandwidth designs

RF connectors: 3.5 mm female; detector output: BNC female

Compatibility & Integration

DC bias requires Keysight 87422A power supply providing +15 V at 3.3 A and –15 V at 50 mA (or +15 V at 4.0 A and –15 V at 200 mA), plus optional +12 V at 2.0 A and –12 V at 200 mA outputs. The 87422A is a 90-watt supply.

83020A Characteristics / Specifications

PARAMETER	VALUE
Model	83020A
Instrument Type	Microwave system power amplifier
Series Family	Keysight 83000A Series
Frequency Range	2 GHz to 26.5 GHz
Small Signal Gain Mid	30 dB minimum, 2 to 20 GHz
Small Signal Gain High	27 dB minimum, 20 to 26.5 GHz
Small Signal Gain Flatness Typical	±5 dB typical
Output Power At One dB Compression Mid	+28 dBm minimum, 2 to 20 GHz
Output Power At One dB Compression High	+28 dBm minus 0.7 dB/GHz, 20 to 26.5 GHz
Output Power At Pmax Mid	+30 dBm minimum, 2 to 20 GHz
Leveled Output Power Flatness Typical	±1.5 dB typical, 1 to 26.5 GHz at 23 dBm
Noise Figure Mid Typical	less than 10 dB typical, 1 to 20 GHz
Noise Figure High Typical	less than 13 dB typical, 20 to 26.5 GHz
Harmonics At P1dB Mid Typical	minus 20 dBc typical, 2 to 11 GHz
Input SWR Typical	3:1 typical, 1 to 26.5 GHz
Output SWR Mid	4.5:1, 2 to 10 GHz
Output SWR High	2.2:1, 10 to 26.5 GHz
Nonharmonic Spurious Typical	minus 65 dBc typical
Impedance Typical	50 ohm typical
Reverse Isolation Typical	minus 55 dB typical
Survival Input Power	+23 dBm maximum
Power Dissipation	48 W
Rise Time Typical	375 ps typical
Third Order Intercept Mid Typical	38 dBm typical, 2 to 20 GHz

PARAMETER	VALUE
Positive Bias	15 ±1.5 Vdc at 3200 ±800 mA
Negative Bias	minus 15 ±0.5 Vdc at 20 ±5 mA
Rf Connectors	3.5 mm female
Detector Output Connector	BNC female
Detector Sensitivity	1 uV per uW
Detector Polarity	Negative
Net Weight	3.9 kg (8.5 lb)
Operating Temperature	0 C to +55 C
Storage Temperature	minus 40 C to +70 C
Temperature Coefficient Of Gain	minus 0.19 dB perCCCompatible Bias Supply: 87422A
Rise Time	Typical: 375 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 0.19 dB perCCompatible Bias Supply: 87422A Notes Numeric rows from Agilent/Keysight 83000A Series Microwave System Amplifiers Technical Overview 5963-5110E. Option 001 deletes the coupler/detector; Pmax add 0.5 dBm from 1 to 26.5 GHz.

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	
PARAMETER	VALUE
Model	83020A
Instrument Type	Microwave system power amplifier
Series Family	Keysight 83000A Series
Frequency Range	2 GHz to 26.5 GHz
Small Signal Gain Mid	30 dB minimum, 2 to 20 GHz
Small Signal Gain High	27 dB minimum, 20 to 26.5 GHz
Small Signal Gain Flatness Typical	±5 dB typical
Output Power At One dB Compression Mid	+28 dBm minimum, 2 to 20 GHz
Output Power At One dB Compression High	+28 dBm minus 0.7 dB/GHz, 20 to 26.5 GHz
Output Power At Pmax Mid	+30 dBm minimum, 2 to 20 GHz
Leveled Output Power Flatness Typical	±1.5 dB typical, 1 to 26.5 GHz at 23 dBm
Noise Figure Mid Typical	less than 10 dB typical, 1 to 20 GHz
Noise Figure High Typical	less than 13 dB typical, 20 to 26.5 GHz
Harmonics At P1dB Mid Typical	minus 20 dBc typical, 2 to 11 GHz
Input SWR Typical	3:1 typical, 1 to 26.5 GHz
Output SWR Mid	4.5:1, 2 to 10 GHz
Output SWR High	2.2:1, 10 to 26.5 GHz
Nonharmonic Spurious Typical	minus 65 dBc typical
Impedance Typical	50 ohm typical
Reverse Isolation Typical	minus 55 dB typical
Survival Input Power	+23 dBm maximum
Power Dissipation	48 W
Rise Time Typical	375 ps typical
Third Order Intercept Mid Typical	38 dBm typical, 2 to 20 GHz
Positive Bias	15 ±1.5 Vdc at 3200 ±800 mA
Negative Bias	minus 15 ±0.5 Vdc at 20 ±5 mA

PARAMETER	VALUE
Rf Connectors	3.5 mm female
Detector Output Connector	BNC female
Detector Sensitivity	1 uV per uW
Detector Polarity	Negative
Net Weight	3.9 kg (8.5 lb)
Operating Temperature	0 C to +55 C
Storage Temperature	minus 40 C to +70 C
Temperature Coefficient Of Gain	minus 0.19 dB per C
Compatible Bias Supply	87422A

Specifications

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Small Signal Gain Flatness Typical	±5 dB typical
Output Power At One dB Compression Mid	+28 dBm minimum, 2 to 20 GHz
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Negative Bias	minus 15 ±0.5 Vdc at 20 ±5 mA
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Detector Sensitivity	1 uV per uW
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Net Weight	3.9 kg (8.5 lb)
Operating Temperature	0 C to +55 C
Storage Temperature	minus 40 C to +70 C
Temperature Coefficient Of Gain	minus 0.19 dB perCCompatible Bias Supply: 87422A

Notes

Numeric rows from Agilent/Keysight 83000A Series Microwave System Amplifiers Technical Overview 5963-5110E. Option 001 deletes the coupler/detector; Pmax add 0.5 dBm from 1 to 26.5 GHz.

Ordering Information

OPTION	DESCRIPTION
Option 001	deletes coupler/detector for higher Pmax

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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Generated August 14, 2026

Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.