

KEYSIGHT TECHNOLOGIES (AGILENT HP)

6038A

The Keysight (formerly Agilent HP) 6038A is a reliable 240W autoranging system DC power supply designed for test system integrators who require a space-efficient and responsive power solution. Operating on the GPIB (HP-IB) interface, the 6038A offers precise voltage and current programming alongside full analog control capabilities in a compact 3U form factor.

SPECIFICATIONS

General

Interfaces	GPIB (IEEE-488), Analog/Resistance Control
Display	Digital front-panel LED segment displays for voltage and current

Physical

Power Supply	120 VAC nominal (options for 100, 220, 240 VAC), 48-63 Hz, 450 VA max
Operating Temperature	0°C to 55°C °C
Dimensions (W×H×D)	425.5 mm × 132.6 mm × 503.7 mm mm
Weight	9.6 kg kg
Cooling System	Forced-air cooling with internal fan (intake from front and sides, exhaust at rear)

Output Ratings

Maximum Output Power	240 W
Voltage Output Range	0 to 60 V
Current Output Range	0 to 10 A

Programming Accuracy

Voltage Programming Accuracy	0.035% + 40 mV
Current Programming Accuracy	0.09% + 10 mA

Readback Accuracy

Voltage Readback Accuracy	0.07% + 50 mV
Current Readback Accuracy	0.2% + 11 mA

Ripple & Noise

Voltage Ripple and Noise (rms)	3 mV
Voltage Ripple and Noise (peak-to-peak)	30 mV
Current Ripple and Noise (rms)	5 mA

Regulation (Load and Line)

Voltage Load Regulation	5 mV
Current Load Regulation	10 mA
Voltage Line Regulation	2 mV
Current Line Regulation	5 mA

Programming Resolution

Voltage Programming Resolution	15 mV
Current Programming Resolution	2.5 mA

Temperature Coefficient

Voltage Temperature Coefficient	0.007% + 0.4 mV per °C
Current Temperature Coefficient	0.008% + 0.2 mA per °C

Transient Response

Transient Recovery Time	< 1 ms to recover to within 75 mV after a change from 90% to 100% (or 100% to 90%) of maximum rated current
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Protection and Isolation Features

Overvoltage Protection (OVP) Trip Range	2 V to 64 V
Overvoltage Protection (OVP) Accuracy	1.6 V
Maximum Isolation Voltage	±240 VDC (output to ground)

Remote Sensing and Analog Programming

Maximum Sense Compensation Voltage	0.5 V per load lead
Analog Voltage Programming Range	0 to 5 V or 0 to 10 V
Analog Resistance Programming Range	0 to 4 kΩ or 0 to 8 kΩ

Physical Characteristics

Rack Space	3U
Shipping Weight	11.4 kg

AC Input

Input Voltage Options	100 VAC / 120 VAC / 220 VAC / 240 VAC (factory configured or user switchable)
Input Frequency Range	48 - 63 Hz
Maximum Input Current	4.5 A @ 120 VAC / 5.0 A @ 100 VAC / 2.5 A @ 220 VAC / 2.2 A @ 240 VAC
Maximum Input Power	450 VA / 350 W
Power Factor	0.9 (typical)
Typical Efficiency	70%

Programming Response Time

Voltage Up-Programming Time (Full Load)	15 ms
Voltage Up-Programming Time (No Load)	15 ms
Voltage Down-Programming Time (Full Load)	15 ms
Voltage Down-Programming Time (No Load)	300 ms

Stability

Voltage Drift (8 Hours)	0.03% + 5 mV
Current Drift (8 Hours)	0.03% + 3 mA

HP-IB (GPIB) Interface

HP-IB IEEE-488 Interface Capabilities	SH1, AH1, T6, L4, SR1, RL1, PP1, DC1, DT1, C0, E1
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Environmental

Storage Temperature Range	-40 °C to +75 °C
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Protection

Overvoltage Protection (OVP) Resolution	270 mV
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Resolution

Voltage Readback Resolution	15 mV
Current Readback Resolution	3.75 mA

Performance

Command Processing Time	15 ms (typical average time for output to begin to change after receipt of GPIB command)
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Protection Features

Overtemperature Protection	Automatic shutdown when internal temperature limits are exceeded
Reverse Voltage Protection	Protected by internal diode across output terminals

Operational Capabilities

Parallel Operation	Up to 3 units in master/slave configuration
Series Operation	Up to 2 units can be connected in series (within maximum isolation voltage limits)

Connectivity

Rear Panel Output Connectors	Barrier block with screw terminals
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TECHNOLOGY

Autoranging DC Power Supply

APPLICATIONS

Automated Test Equipment (ATE), laboratory bench power, design validation systems

