DC ELECTRONIC LOADS
Specifications

Specifications *(Data Subject to Change)*

Amperes	0 to 60 A	0 to 10 A	0 to 30 A	0 to 120 A	0 to 60 A
Volts	3 to 60 V	3 to 240 V	3 to 60 V	3 to 60 V	3 to 150 V
Maximum Power (at 40°C)	300 W	250 W	150 W	600 W	500W
Hewlett-Packard Model	HP 6060B, 60502B	HP 6063B, 60503B	HP 60501B	HP 60504B	HP 60507B
Constant current mode					
Ranges	0 to 6 A, 0 to 60 A	0 to 1 A, 0 to 10 A	0 to 3 A, 0 to 30 A	0 to 12 A, 0 to 120 A	0 to 6 A, 0 to 60 A
Accuracy	0.1% ±75 mA	±0.15 ±10 mA	0.1% ±40 mA	0.12% ±130 mA	0.1% ± 75mA
Resolution	60 A range: 16 mA 6 A range: 1.6 mA	10 A range: 2.6 mA 1 A range: 0.26 mA	30 A range: 8 mA 3 A range: 0.8 mA	120 A range: 32 mA 12 A range: 3.2 mA	60 A range: 1.6 mA 6 A range: 1.6 mA
Temperature coefficient	100 ppm/°C ±5 mA/°C	150 ppm/°C ±1 mA/°C	100 ppm/°C ±3 mA/°C	120 ppm/°C ±8 mA/°C	120 ppm/°C ±5 mA/°C
Regulation	±10 mA	±8 mA	±10 mA	±10 mA	±10 mA
Constant voltage mode					
Accuracy	0.1% ±50 mV	±0.12% ±120 mV	0.1% ±50 mV	0.1% ±50 mV	0.1% ±125 mV
Resolution	16 mV	64 mV	16 mV	16 mV	40 mV
Regulation	±10 mV	±10 mV	±5 mV	±20 mV	±10 mV
Temperature coefficient	100 ppm/°C ±5 mV/°C	120 ppm/°C ±10 mA/°C	100 ppm/°C ±5 mV/°C	100 ppm/°C ±5 mV/°C	100 ppm/°C ±5 mV/°C
Constant resistance mode					
Ranges	0.033 to 1.0 Ω 1 Ω to 1KΩ 10 Ω to 10 KΩ	0.20 to 24.0 ohm 24 to 1000Ω 240 to 5000Ω	0.067 to 2 Ω 2 Ω to 2 K Ω 20 Ω to 10 KΩ	0.017 to 0.5 Ω 0.5 Ω to 500 Ω 5 Ω to 5 KΩ	0.033 to 2.5 Ω 2.5 Ω to 2.5 KΩ 25 Ω to 10 KΩ
Accuracy	1 Ω: 0.8% ±8 mΩ (with ≥6A at input) 1 K Ω: 0.3% ±8 mS (with ≥6V at input) 10 K Ω: 0.3% ±8 mS (with ≥6V at input)	24Ω: 0.8% ±200 mΩ (with ≥1A at input) 10 KΩ: 0.3% ±0.3 mS (with ≥24V at input) 50 KΩ: 0.3% ±0.3 mS (with ≥24V at input)	2 Ω: 0.8%, ± 16 mΩ (with ≥3A at input) 2 KΩ: 0.3% ±5 mS (with ≥6V at input) 10 KΩ: 0.3% ±5 mS (with ≥6V at input)	0.5 Ω: 0.8% ±5 mΩ (with ≥12A at input) 500 Ω: 0.3% ± 16 mS (with ≥6V at input) 5 KΩ: 0.3% ± 16 mS (with ≥6V at input)	2.5 Ω: 0.8% ±16 mΩ (with ≥6A at input) 2.5 KΩ: 0.3% ±5 mSΩ (with ≥15V at input) 10 KΩ: 0.3% ±5 mSΩ (with ≥15V at input)
Resolution	1 Ω: 0.27 mΩ 1 KΩ: 0.27 mS 10 KΩ: 0.027 mS	24Ω: 6 mΩ 10 KΩ: 0.011 mS 50 KΩ: 0.001 mS	2 Ω: 0.54 mΩ 2 KΩ: 0.14 mS 10 KΩ: 0.014 mS	5 Ω: 0.14 mΩ 500 Ω: 0.54 mS 5 KΩ: 0.054 mS	2.5 Ω: 0.57 mΩ 2.5 KΩ: 0.10 mS 10 KΩ: 0.01 mS
Regulation	1 Ω: 10 mV 1 KΩ: 10 mA 10 KΩ: 10 mA	24Ω: 10 mY 10 KΩ: 8 mA 50 KΩ: 8 mA	2 Ω: 10 mV 2 KΩ: 10 mA 10 KΩ: 10 mA	5 Ω: 20 mV 500 Ω: 10 mA 5 KΩ: 10 mA	2.5 Ω: 10 mV 2.5 KΩ: 10 mA 10 KΩ: 10 mA
Temperature coefficient	1 Ω: 800 ppm/°C ±0.4 mΩ/°C 1 KΩ: 300 ppm/°C ±0.6 mS/°C 10 KΩ: 300 ppm/°C ±0.6 mS/°C	24 Ω: 800 ppm/°C 800 ppm/°C ± 10 mΩ/°C 10 KΩ: 300 ppm/°C 300 ppm/°C ±0.03 mS/°C 50 KΩ: 300 ppm/°C 300 ppm/°C/−0.03 mS/°C	2 Ω: 800 ppm/°C ±0.8 mΩ/°C 2 KΩ: 300 ppm/°C ±0.5 mS/°C 10 KΩ: 300 ppm/°C ±0.5 mA/°C	0.5 Ω: 800 ppm/°C ±0.2 mΩ/°C 500 Ω: 300 ppm/°C ±1.2 mS/°C 5 KΩ: 300 ppm/°C ±1.2 mS/°C	2.5 Ω: 800 ppm/°C ±0.8 mΩ/°C 2.5 KΩ: 300 ppm/°C ±0.3 mS/°C 10 KΩ: 300 ppm/°C ±0.3 mS/°C
Transient generator					
Frequency range	0.25 Hz to 10 kHz	0.25 Hz to 10 kHz	0.25 Hz to 10 kHz	0.25 Hz to 10 kHz	0.25 Hz to 10 kHz
Resolution	4% or less	4% or less	4% or less	4% or less	4% or less
Accuracy	3%	3%	3%	3%	3%
Duty cycle range	3 to 97% (0.25 Hz to 1 kHz) 6 to 94% (1 kHz to 10 kHz)	3% to 97% (0.25 Hz to 1 kHz) 6 to 94% (1 kHz to 10 kHz)	3 to 97% (0.25 Hz to 1 kHz) 6 to 94% (1 kHz to 10 kHz)	3 to 97% (0.25 Hz to 1 kHz) 6 to 94% (1 kHz to 10 kHz)	3 to 97% (0.25 Hz to 1 kHz) 6 to 94% (1 kHz to 10 kHz)
Resolution	4%	4%	4%	4%	4%
Accuracy	6% of setting ±2%	6% of setting ±2%	6% of setting ±2%	6% of setting ±2%	6% of setting ±2%
Current level high range	60 A range:	10 A range:	30 A range:	120 A range:	60 A range:
Resolution	260 mA	43 mA	130 mA	520 mA	260 mA
Accuracy	0.1% ±350 mA	0.18% ±50 mA	0.1%, ±200 mA	0.15% ±700 mA	0.15% ±350 mA
Current level low range	6 A range:	1 A range:	3 A range:	12 A range:	6 A range:
Resolution	26 mA	4 mA	13 mA	52 mA	26 mA
Accuracy	0.1% ±80 mA	0.18% ±13 mA	0.1% ±40 mA	0.15% ±160 mA	0.15% ±85 mA
Current temperature coefficient	100 ppm/°C ±7 mA/°C	180 ppm/°C ±1.2 mA/°C	100 ppm/°C ±5 mA/°C	150 ppm/°C ±10 mA/°C	150 ppm/°C ±5 mA/°C
Voltage level	3 to 60 V	3 to 240 V	3 to 60 V	3 to 60 V	3 to 150 V
Voltage level resolution	260 mV	1 V	260 mV	260 mV	650 mV
Voltage level accuracy	0.1% ±300 mV	0.15% ±1.1 V	0.1% ±300 mV	0.15% ±300 mV	0.15% ±750 mV
Voltage temperature coefficient	150 ppm/°C ± 5 mV/°C	120 ppm/°C ± 10 mV/°C	150 ppm/°C ± 5 mV/°C	150 ppm/°C ± 5 mV/°C	150 ppm/°C ± 5 mV/°C
Programmable slew rate	60 A range: 1 A/ms - 5 A/μs 6 A range: 0.1 A/ms - 0.5 A/μs	10 A range: 0.17 A/ms - 0.83 A/μs 1 A range: 17 A/ms - 83 A/μs	30 A range: 0.5 A/ms - 2.5 A/μs 3 A range: 0.05 A/ms - 0.25 A/μs	120 A range: 2 A/ms - 10 A/μs 12 A range: 200 A/ms - 1 A/μs	60 A range: 1 A/ms - 5 A/μs 6 A range: 0.1 A/ms - 0.1 A/μs
Rise/fall time	12 μs to 8 ms	16 μs to 8 ms	12 μs - 8 ms	12 μs - 8 ms	36 μs - 8 ms

HP 6050A, 6051A weight

Net weight: 6050A: 9.5 kg (21 lb)
6051A: 5.5 kg (12 lb)
Shipping weight: 6050A: 13.6 kg (30 lb)
6051A: 7.5 kg (17 lb)

HP-IB Interface Capabilities

The following HP-IB functions are implemented: SH1, AH1, L4, SR1, DC1, DT1, and RL1.

Safety Agency Compliance

Hewlett-Packard Electronic Loads are designed to comply with the following regulatory standards: IEC 348, VDE 0411, UL 1244, and CSA Electrical Bulletin 556B.