

Power supplies

for component testing – a feature-oriented product guide

- ◆ High-voltage resolution
- ◆ Sinking capability
- ◆ High speed
- ◆ Easy synchronous operation
- ◆ Pulse measurement
- ◆ High-current resolution
- ◆ Low ripple/noise
- ◆ Accurate and fast DUT protection
- ◆ Pulsed operation

This brochure provides an overview of power supplies from Rohde & Schwarz used in the component market.



ROHDE & SCHWARZ

Component testing

In component testing, it is important that electronic components are supplied quickly, reliably and with high resolution. Since minimum currents/voltages must be supplied/measured, an extremely low-noise source is required. In addition, a very wide range of electrical characteristics must be measured or behavior under stress situations must be determined. If components are measured in early phases (without encapsulation or cooling), only pulsed supply operation may be permissible. The power supply units described in this brochure integrate many of these characteristics. All units (except those of the R&S®NGT series) feature IEC/IEEE bus remote control.



Advantest R6243¹⁾

Voltage/Current Source/Monitor

Key features

- ◆ Output: 0 V to max. ± 110 V/
0 A to max. ± 2 A
- ◆ Voltage resolution (setting/measurement): 10 μ V/1 μ V
- ◆ Current resolution (setting/measurement): 1 nA/100 pA
- ◆ Real constant current source
- ◆ Minimum ripple and noise: 5 mV (pp)/
500 nA (pp)
- ◆ Voltage and current limiter
- ◆ Inputs/outputs for synchronization
- ◆ Pulse generation and pulse measurement with 10 μ s resolution (from 1 ms)
- ◆ Pulse generation by internal waveform generator
- ◆ Linear, logarithmic and arbitrary DC and pulse sweeps
- ◆ Sinking capability

Typical applications

- ◆ Transistor, FET and (photo-)diode characteristics test
- ◆ Battery charge and discharge tests
- ◆ DC/DC converter characteristics test
- ◆ Latch-up tests on CMOS ICs
- ◆ Go/Nogo components evaluation
- ◆ Calibration reference source



Advantest R6244¹⁾

Voltage/Current Source/Monitor

Key features

- ◆ Output: 0 V to max. ± 20 V/
0 A to max. ± 10 A
- ◆ Voltage resolution (setting/measurement): 10 μ V/1 μ V
- ◆ Current resolution (setting/measurement): 10 nA/1 nA
- ◆ Real constant current source
- ◆ Minimum ripple and noise: 5 mV (pp)/
500 nA (pp)
- ◆ Voltage and current limiter
- ◆ Inputs/outputs for synchronization
- ◆ Pulse generation and pulse measurement with 10 μ s resolution (from 1 ms)
- ◆ Pulse generation by internal waveform generator
- ◆ Linear, logarithmic and arbitrary DC and pulse sweeps
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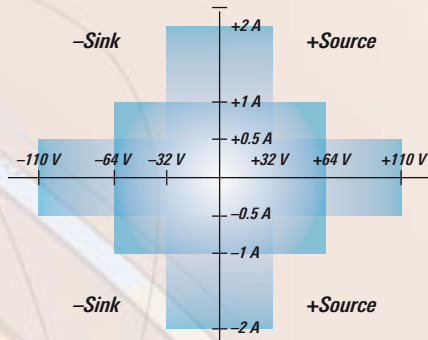
Typical applications

- ◆ Transistor, FET and (photo-)diode characteristics test
- ◆ Battery charge and discharge tests
- ◆ DC/DC converter characteristics test
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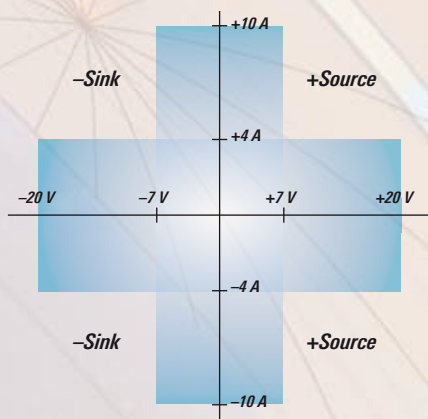
¹⁾ Distributed only in Europe and selected countries.

4-quadrant power supplies

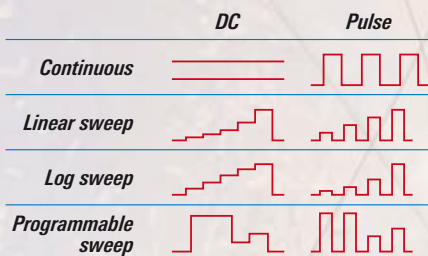
R6243



R6244



R624x source modes



Advantest R6240A¹⁾

Voltage/Current Source/Monitor

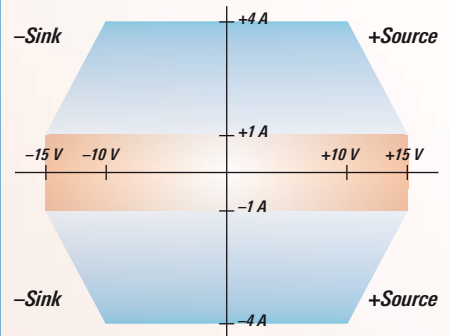
Key features

- ◆ Output: 0 V to max. ± 5 V/
0 A to ± 1 (4) A
- ◆ Voltage resolution (setting/measurement): 100 μ V/10 μ V
- ◆ Current resolution (setting/measurement): 100 nA/10 nA
- ◆ Real constant current source
- ◆ Minimum ripple and noise: 5 mV (pp)/
6 μ A (pp)
- ◆ Voltage and current limiter with individual settings of HI and LO limiters
- ◆ Inputs/outputs for synchronization
- ◆ Pulse generation and pulse measurement with 10 μ s resolution (from 500 μ s)
- ◆ Pulse generation by internal waveform generator
- ◆ Fixed linear and arbitrary DC and pulse sweeps
- ◆ Sinking capability

Typical applications

- ◆ Battery charge/discharge tests
- ◆ Charger tests with HiZ mode
- ◆ Power supply unit evaluation
- ◆ Measuring ON resistance of MOSFET and analog switches
- ◆ Power consumption tests

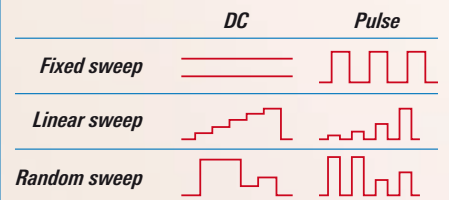
R6240A



DC, pulse

Pulse (pulse width ≤ 20 ms, duty factor ≤ 20 %)

R6240A source modes





R&S® NGM01

Single-Channel Analyzer/Power Supply

Key features

- ◆ Output: 0 V to max. 15 V/0 A to max. 5 A
- ◆ Voltage resolution (setting/measurement): 1 mV/1 mV
- ◆ Current resolution (setting/measurement): 1 mA/100 nA
- ◆ Minimum ripple and noise: 1 mV (rms)
- ◆ Overvoltage protection, overcurrent protection (OVP, OCP)
- ◆ I/Os: Meas. Trig In, Inhibit, Complete
- ◆ Pulse measurement with 10 μs resolution
- ◆ Power pulse generation by means of external generators and inhibit input
- ◆ Sinking capability
- ◆ 5000-point sample buffer
- ◆ Digital voltmeter (DVM) input

Typical applications

- ◆ (Pulsed) power amplifier test
- ◆ Parameter test on electronic devices



R&S® NGM02

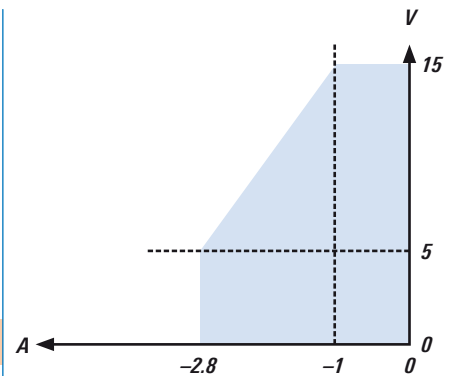
Dual-Channel Analyzer/Power Supply

Key features

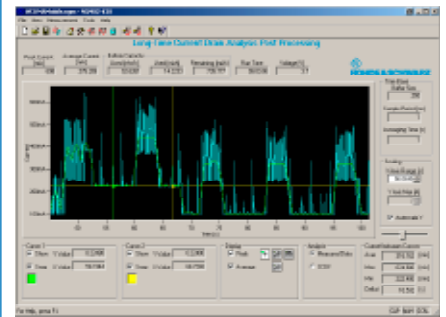
- ◆ Output: 2 × 0 V to max. 15 V/0 A to max. 5 A
- ◆ Voltage resolution (setting/measurement): 1 mV/1 mV
- ◆ Current resolution (setting/measurement): 1 mA/100 nA
- ◆ Minimum ripple and noise: 1 mV (rms)
- ◆ OVP, OCP
- ◆ I/Os: Meas. Trig In, Inhibit, Complete
- ◆ Pulse measurement with 10 μs resolution
- ◆ Power pulse generation by means of external generators and inhibit input
- ◆ Sinking capability
- ◆ 5000-point sample buffer
- ◆ 2 × DVM input

Typical applications

- ◆ (Pulsed) power amplifier test
- ◆ Charger tests
- ◆ Parameter test on electronic devices



R&S® NGM02 sinking capability



Transient current analysis with R&S® NGM02 and R&S® NGM02-K10 software



R&S® NGT

Triple Power Supply

Key features

- ◆ R&S® NGT 35: 2 × 0 V to 35 V/0 A to 0.6 A, 1 × 0 V to 6 V/0 A to 5 A
- ◆ R&S® NGT 25: 2 × 0 V to 25 V/0 A to 0.8 A, 1 × 0 V to 6 V/0 A to 5 A
- ◆ R&S® NGT 20: 2 × 0 V to 20 V/0 A to 1 A, 1 × 0 V to 6 V/0 A to 5 A
- ◆ OVP for 6 V channel, tracking operation

Typical application

- ◆ General-purpose laboratory power supply



R&S® NGPS 32

Dual Bipolar Voltage Source

- ◆ Output: 2 × 0 V to ±32 V/±100 mA
- ◆ Voltage resolution (setting): 0.5 mV
- ◆ Minimum ripple and noise: 0.5 mV (rms)
- ◆ Pulse generation by means of integrated simple arbitrary generator (>1 ms)

Typical application

- ◆ Programmable reference voltage source



R&S® NGPX 35

High-Speed Power Supply

Key features

- ◆ Output: 0 V to 35 V/0 A to 10 A
- ◆ Voltage resolution (setting/measurement): 10 mV/10 mV
- ◆ Current resolution (setting/measurement): 2.5 mA/10 μA
- ◆ OVP
- ◆ Trig in, DFI/RI
- ◆ Pulse generation by means of external generators and inhibit input

Typical applications

- ◆ High-throughput system power supply
- ◆ Power ramp simulations
- ◆ Efficiency measurements on RF power amplifier



R&S® NGPT 35

Programmable Triple Power Supply

Key features

- ◆ Output: 2 × 0 V to 35 V/0 A to 1 A
1 × 0 V to 7 V/0 A to 5 A
- ◆ Voltage resolution (setting and measurement): 0.5 mV to 2.5 mV
- ◆ Current resolution (setting and measurement): 100 nA
- ◆ Minimum ripple and noise: 0.1 mV to 0.2 mV (rms)/20 μA to 100 μA (rms)
- ◆ OVP, coupled protection, tracking operation

Typical application

- ◆ Universal low-noise supply



www.rohde-schwarz.com

Europe: +49 1805 12 4242, customersupport@rohde-schwarz.com
USA and Canada: 1-888-837-8772, customer.support@rsa.rohde-schwarz.com
Asia: +65 65 130 488, customersupport.asia@rohde-schwarz.com