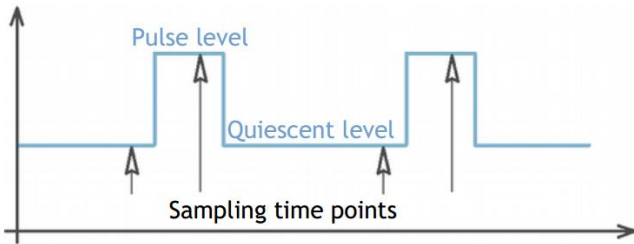


**Pulsed Voltage Source  $\pm 25V$   $\pm 200mA$**   
**Pulse between two programmable levels**  
**Voltage and current measurement for both levels**  
**Ideal for RF transistor Operating Life Test, used with**  
**iTest BE2430 Power Supply and BA2431 Drain Pulse Unit**

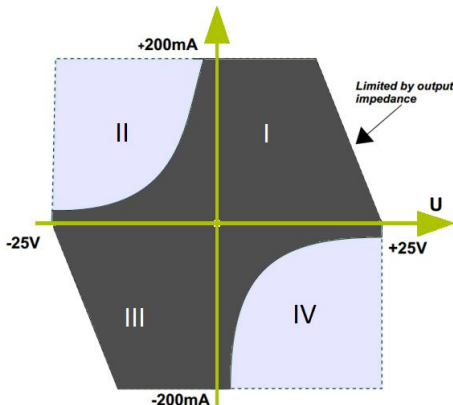
Powered by **iTest**

**Main Features:**

- 4-quadrant DC or Pulse voltage source
- Down to  $1\mu s$  pulse width, 20ns time resolution
- Simultaneous voltage and current sampling
- Pulse and Quiescent level sampling time points can be chosen automatically by the source or manually by the user



- 1 voltage range:  $\pm 25V$
- 2 current ranges:  $\pm 5mA$  and  $\pm 200mA$
- No transient when powering on/off or switching on/off
- Output on isolated BNC connector
- Input and Output triggers on SMB connectors
- Operating range:  
DC: yellow area, Pulse: yellow + blue areas



**Bilt system features**

- Host connections at chassis level including Ethernet and USB.
- Complete free software package provided, including a turnkey PC software and NI Labview® drivers

**Application examples**

- General purpose laboratory programmable DC source
- Transistor's Gate or Base biasing in pulse applications
- Reliability Test/ Operating Burn-In & Life-Test

## System Specifications

### Operating area

Parameters	Conditions/Comments	Min	Max
Voltage programming range		-25V	+25V
Pulse amplitude	Difference between pulse and quiescent levels	-30V	30V
Output current	Guaranteed; source stops if $\pm 260\text{mA}$ is exceeded	-200mA	+200mA
Pulse	Width	1 $\mu\text{s}$	10s
	Frequency	0.1Hz	100KHz
	Duty cycle	0%	100%
Temperature	Ambient temperature in front of the chassis rear opening	10°C	30°C

### Electrical Specification

Parameters	Conditions/Comments	Value
Voltage programming resolution	16-bit	1mv
Voltage programming accuracy	2-year accuracy, no load	20mv $\pm$ 0.1%
Voltage noise	0,1Hz-10kHz, peak-to-peak noise, no load	0.2mV
	0,1Hz-5MHz, peak-to-peak noise, no load	2.5mV
Voltage settling time	Pulse, 0% to 95%, no load	100ns
	DC, Pulsed and Quiescent voltage levels, 0 to 95%	30ms
Time resolution	Pulse and measurement time resolution	20ns
Overload response time	Source stops if $\pm 260\text{mA}$ is exceeded	60ns
Output impedance	Source ON	50 $\Omega$ $\pm$ 1%
	Source OFF, between both outputs ; max. allowed current: 1A	50m $\Omega$
Output capacitance	Internal output capacitance	20pF
Earth Isolation	Isolation Voltage	$\pm$ 50V max.
	Isolation resistance	$\approx$ 50k $\Omega$
	Capacitance between any output terminal and the earth	100nF

# System Specifications

## Measurements

Parameters	Conditions/Comments	25V range	200mA range	5ma range
ADC resolution	16-bit	0.9mV	7µA	170nA
Noise		±1.8mV	±17.5µA	±2µA <sup>2</sup>
Settling time <sup>1</sup>	To 99.9% To ADC resolution	0.35µs 0.45µs	0.35µs 0.45µs	0.75µs 1µs
Absolute accuracy	Offset + % of reading, 2-year	7.5mV + 0.07%	60µA + 0.08%	10µA + 0.08%

(1) time for the measurement to reach the actual value, starting from the pulse edge, simulation results, half range step  
 (2) in DC or continuous pulse mode only, 5µA<sub>pp</sub> otherwise.

## Application Example

### RF transistor Operating Life Test up to 60V 30A

The BE2501 low noise pulsed source module is used for biasing the transistor's Gate in a RF device Operating Life Test application, in combination with a remote Pulse Source and Measurement Unit (PSMU) to supply the transistor's drain. The BE2501 integrates a digital pulse generator and input/output trigger signals for the overall synchronization of the test bench.

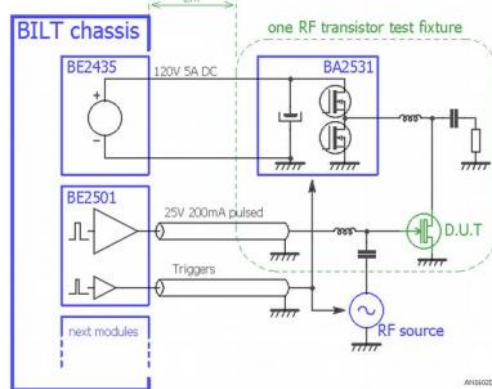
The Bilt system offers a highly integrated and low cost solution for biasing RF transistors in single or multi-channel applications. The pulse can be performed by switching either the Gate, the Drain or/and the RF signal. The pulse sequence is fully programmable using a time resolution of 20ns. Drain and Gate voltage and current are synchronously and simultaneously sampled.

The BA2531 PSMU, located close to the device, integrates a very large capacitor to deliver large current pulses at low frequency while maintaining very small voltage drops. Safe operation is guaranteed by:

- A very fast programmable current breaker in the PSMU, also called "Efuse" function
- A Drain DC power supply designed to drive safely very large capacitor values and switching loads
- A fast trigger prevents the PSMU to operate if the Gate Pulse Source is off or shuts down



A very small 5-slot BILT chassis hosts the BE2501 and BE2435 modules (photo is not contractual)



[Read the AN1602 application note for further details.](#)

## System Specifications

### Related products

BE2430	120V 5A Isolated Voltage DC Source, high capacitive load
BE2501	<a href="#">30A remote Pulse Source and Measurement Unit (PSMU)</a>

### Documentation

BE2501 Brochure	Rev 1.0	Module data sheet / specifications and main features
BE2501 User Manual		User manual: chassis, network, software and connections description
<a href="http://www.bilt-system.com/">http://www.bilt-system.com/</a>		Bilt user manual and any other Bilt module specification

### Standards, Calibration, Warranty and Maintenance

*Bilt system is compliant with the applicable European Directives and holds the CE mark.  
 Any iTest product comes with a two-year parts and labour guarantee and a calibration certificate if applicable. A telephone support service is also available for the same period.  
 Our calibration laboratory performs according to ISO/CEI 17025 "General requirements for the competence of testing and calibration laboratories". All measurements are traceable to the International System of Unit.  
 The recommended calibration interval of this product is 2 year.  
 On request, Itest can proceed to scheduled calibration (in our workshop or at the customer's site).  
 Maintenance can also be performed on-site or in our workshop.*

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