Low-power electrnoic load
FT6200 series

|Sketch

The FT6200A series of low-power electronic loads is a desktop-grade electronic load with superior utility and versatility. Can be widely used in switching power supplies, adapters, LED drivers, 3C batteries, supercapacitors, power electronic devices, solar cell modules, chargers and other products research and development, production, quality inspection and other testing links。The product is equipped with TFT screen and English and Chinese menu interface, which is convenient and intuitive to operate, and is a necessary common configuration on the desk of power electronics engineers.

The FT6200 series is equipped with RS232 interface and supports standard SCPI command. All functions of panel operation can be realized through SCPI command, which provides convenience for the establishment of intelligent test platform and the secondary development of users.

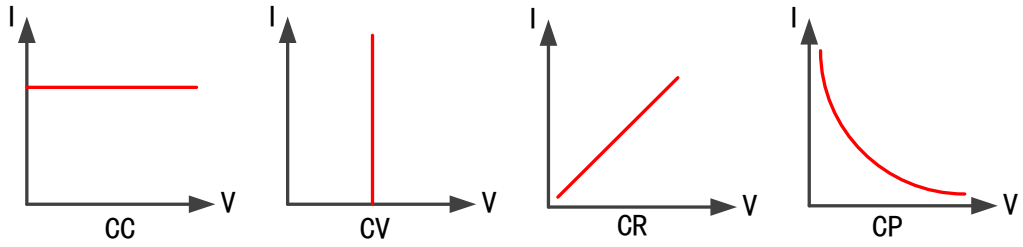
|Characteristics

- Constant current (CC), constant voltage (CV), constant resistance (CR) and constant power (CP) on-load mode;;
- On-load slope, on-load voltage (Von) and off-load voltage (Voff) can be set;
- Dynamic test up to 50kHz;
- The minimum current resolution can reach 0.05mA, and the minimum voltage resolution can reach 0.5mV;
- Current accuracy is(0.05%+0.05%F.S.),voltage accuracy is (0.025%+0.025%F.S.);
- Fast NG/GO inspection to confirm DUT is within specifications;
- OPP、OCP、OVP、OT and other comprehensive protection functions;
- Powerful load sequence editing function, can achieve high-speed complex carrier shape;
- The intelligent automatic test function can significantly improve the test efficiency;
- With OCP, OPP, LED simulation, load effect, battery internal resistance, battery discharge and other test functions;
- Analog short-circuit function;
- Quick call, one-click call test parameters
- A current monitoring port and a digital I/O port are standard;
- The SENSE terminal is installed on the front panel and supports remote sampling;

- TFT color LCD screen, English and Chinese menu interface;
- Standard RS232 interface, remote control can be achieved by computer;
- rich SCPI commands, convenient for the establishment of intelligent test platform and secondary development;
- Fully functional upper computer software as standard;
- Reduce noise with intelligent fan control。

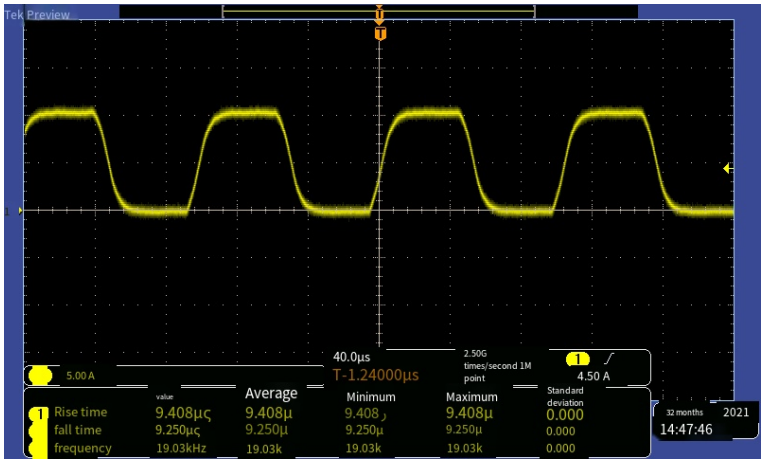
| Steady-state function

FT6200 series electronic load has four test modes of constant current, constant voltage, constant resistance and constant power, which can meet a wide range of test requirements. Constant current and constant resistance modes can be used to test whether the output voltage of the voltage source maintains a stable output under different load conditions. For battery chargers and adapters, constant voltage mode can change the output voltage of the charger and adapter to verify that the output current is correct



| Dynamic function

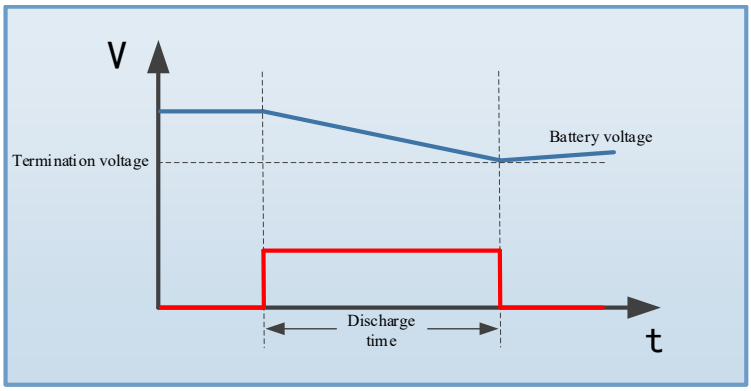
The FT6200 series of electronic loads provides programmable dynamic testing capabilities. Dynamic test function includes continuous, pulse, flip three ways, support load slope setting. The dynamic mode is used to simulate various on-load mutations and anomalies, and is suitable for testing the dynamic characteristics of the power supply, the stability of the power supply, the protection point and protection time of the battery, and the burst on-load simulation of various pulses.



10kHz Dynamic load

| Battery test function

To facilitate battery testing, the FT6200 series offers a battery test function. Battery test includes: battery internal resistance test and battery capacity test. The battery capacity test provides three discharge modes of fixed current, fixed resistance and fixed power, and can set the discharge cutoff conditions: cutoff voltage, cutoff time and cutoff power. If any of the three conditions are met, the discharge stops. During the discharge process, the load automatically records voltage, current, time, AH and other parameters. Below the protection voltage, the load automatically stops testing. With software, more parameters can be tested and analyzed

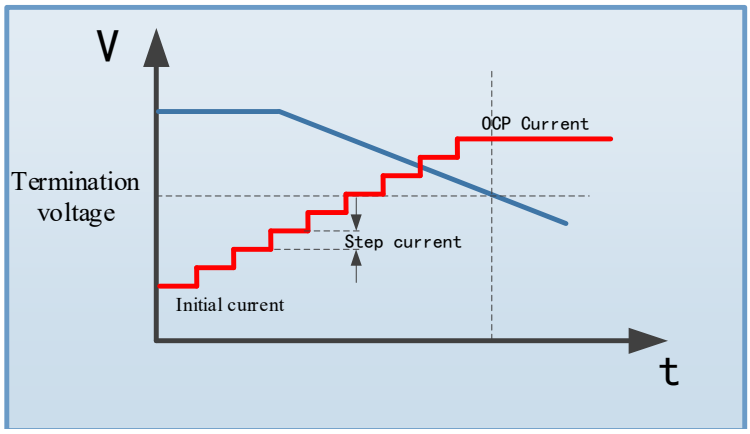


Voltage and current curve during capacity test

|OCP/OPP test

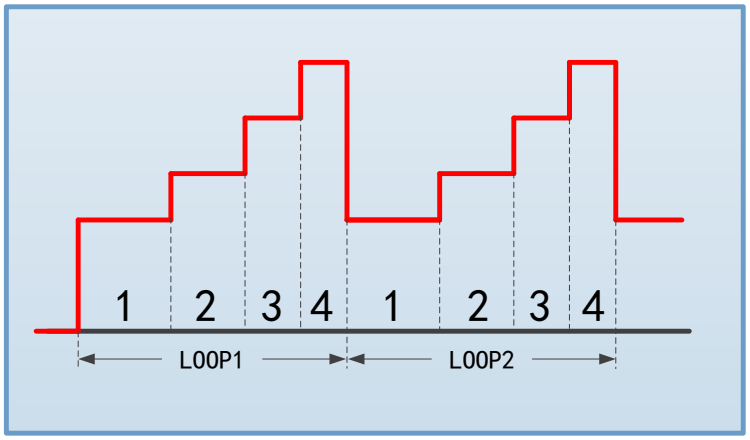
The FT6200 series load itself provides OCP testing, which is mainly applied to the testing of BMS, overcurrent and overpower points of the power module. During OCP testing, the overcurrent protection point of the tested object will be automatically found and recorded in IMAX, PMAX. Combined with the high and low limit values

of the test parameters, it can automatically determine whether the test results exceed the set specifications, saving time for product design verification and production line system testing



|Sequence function

The FT6200 series of electronic loads provides serial testing capabilities. Users can edit the test sequence of a load to simulate various changes at the load input. The electronic load can store up to 10 sequence files, each file can perform up to 100 steps, the maximum time of a single step can be set to 50us ~ 36000s, and at the same time support file link and other sequence editing functions. Suitable for all kinds of complex on-load tests。



| Quick call

Quick call function supports CC/CV/CR/CP and other stationary parameter

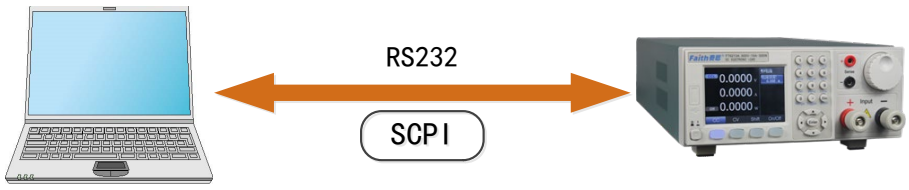
setting, supports OCP, sequence, automatic test, battery internal resistance, battery capacity and other functions, one-click call has been set functions and corresponding parameters. The quick call is suitable for testing in R&D, testing, quality and incoming material inspection departments. Quick calls reduce the number of Settings and operational loads in the test, which can reduce the probability of setting errors, improve test efficiency and test accuracy

| Automatic test

The FT6200 series features flexible automated testing. In the automatic test, CC, CV, CR, CP and other test modes are included, which can compare the test parameters with the corresponding upper and lower limits, and finally display the test results in the form of PASS or FAILED. The fully automatic operation mode can greatly improve the test efficiency。

|SCPI with remote control

The FT6200 series supports standard SCPI commands, through which all functions of panel operations can be implemented. This provides convenience for the establishment of intelligent test platform and the secondary development of users. The FT6200 series provides easy remote control of electronic loads via the RS232 interface。



|Ordering information

Model	specification	dimension
FT6211A	150V/30A/150W	1/2 2U
FT6212A	150V/30A/300W	1/2 2U
FT6213A	500V/15A/300W	1/2 2U
FT6214A	150V/60A/300W	1/2 2U
FT6212A+	150V/30A/400W	1/2 2U
FT6214A+	150V/60A/400W	1/2 2U

|Specifications Table

Specifications Table-1：

Specifications Table -1						
Channel type	FT6211A		FT6212A		FT6213A	
Voltage	150V		150V		500V	
Current	30A		30A		15A	
Power	150W		300W		300W	
Minimum operating voltage	1.2V@30A		0.9V@30A		3V@15A	
Constant current						
Range	3A	30A	3A	30A	3A	15A
Resolution	0.05mA	0.5mA	0.05mA	0.5mA	0.05mA	0.25mA
Precision	0.05%+0.1%F.S.	0.05%+0.05%F.S.	0.05%+0.1%F.S.	0.05%+0.05%F.S.	0.05%+0.1%F.S.	0.05%+0.05%F.S.
Constant voltage						
Range	30V	150V	30V	150V	100V	500V
Resolution	0.5mV	2.5mV	0.5mV	2.5mV	2mV	8.5mV
Precision	0.025%+0.025%F.S					
Constant resistance *4						
Range	0.04Ω～10 Ω	10Ω～20kΩ	0.03Ω～10Ω	10Ω～20kΩ	0.2Ω～10Ω	10Ω～20kΩ
Precision	0.01%+0.08S	0.01%+0.0008S	0.01%+0.08S	0.01%+0.0008S	0.01%+0.08S	0.01%+0.0008S
Constant power*4						
Range	150W		300W		300W	
Precision	0.1%+0.1%F.S.		0.1%+0.1%F.S.		0.1%+0.1%F.S.	
Dynamic state*5						
T1&T2	10us～ 50s		10us ～ 50s		10us ～ 50s	
Slope	0.6A/ms ～1.2A/us		0.6A/ms ～ 1.2A/us		0.6A/ms ～ 0.6A/us	
Current measurement						
Range	3A	30A	3A	30A	3A	15A
Resolution	0.05mA	0.5mA	0.05mA	0.5mA	0.05mA	0.25mA
Precision	0.05%+0.1%F.S.	0.05%+0.05%F.S.	0.05%+0.1%F.S.	0.05%+0.05%F.S.	0.05%+0.1%F.S.	0.05%+0.05%F.S.
Voltage measurement						

Range	30V	150V	30V	150V	100V	500V
Resolution	0.5mV	2.5mV	0.5mV	2.5mV	2mV	8.5mV
Precision	0.025%+0.025%F.S					
Short-circuit						
Current（CC）	≒3A	≒30A	≒3A	≒30A	≒3A	≒15A
Voltage（CV）	≒0V	≒0V	≒0V	≒0V	≒0V	≒0V
Power（CP）	≒150W	≒150W	≒300W	≒300W	≒300W	≒300W
Other						
Dimension（H*W*D）	88×215×380					
Weight	4kg		5kg		5kg	
Operating temperature	0℃～40℃					

Specificationgs Table-2：

Specifications Table-2						
Channel type	FT6214A		FT6212A+		FT6214A+	
Voltage	150V		150V		150V	
Current	60A		30A		60A	
Power	300W		400W		400W	
Minimum operating voltage	2V@60A		0.9V@30A		2V@60A	
Constant Current						
Range	0-6A	0-60A	3A	30A	0-6A	0-60A
Resolution	0.1mA	1mA	0.05mA	0.5mA	0.1mA	1mA
Precision	0.05%+0.1%F.S.	0.05%+0.05%F.S.	0.05%+0.1%F.S.	0.05%+0.05%F.S.	0.05%+0.1%F.S.	0.05%+0.05%F.S.
Constant Voltage						
Range	30V	150V	30V	150V	30V	150V
Resolution	0.5mV	2.5mV	0.5mV	2.5mV	0.5mV	2.5mV
Precision	0.025%+0.025%F.S					
Constant Resistance*4						
Range	0.015Ω～5 Ω	5Ω～10kΩ	0.03Ω～10Ω	10Ω～20kΩ	0.015Ω～5 Ω	5Ω～10kΩ
Precision	0.01%+0.08S	0.01%+0.0008S	0.01%+0.08S	0.01%+0.0008S	0.01%+0.08S	0.01%+0.0008S
Constant power*4						
Range	300W		400W		400W	
Precision	0.1%+0.1%F.S.		0.1%+0.1%F.S.		0.1%+0.1%F.S.	
Dynamic State*5						
T1&T2	10us～ 50s		10us ～ 50s		10us～ 50s	
Slope	1.2A/ms ～2.5A/us		0.6A/ms ～ 1.2A/us		1.2A/ms ～2.5A/us	
Current measurement						
Range	0-6A	0-60A	3A	30A	0-6A	0-60A
Resolution	0.1mA	1mA	0.05mA	0.5mA	0.1mA	1mA
Precision	0.05%+0.1%F.S.	0.05%+0.05%F.S.	0.05%+0.1%F.S.	0.05%+0.05%F.S.	0.05%+0.1%F.S.	0.05%+0.05%F.S.

Voltage Measurement						
Range	30V	150V	30V	150V	30V	150V
Resolution	0.5mV	2.5mV	0.5mV	2.5mV	0.5mV	2.5mV
Precision	0.025%+0.025%F.S					
Short-circuit						
Current（CC）	≒6A	≒60A	≒3A	≒30A	≒6A	≒60A
Voltage（CV）	≒0V	≒0V	≒0V	≒0V	≒0V	≒0V
Power（CP）	≒300W	≒300W	≒400W	≒400W	≒400W	≒400W
Other						
Dimension（H*W*D）	88×215×380					
Weight	5kg		5kg		5kg	
Operating temperature	0℃～40℃					

*All specifications are subject to change without notice.。

Attention：

*1.The above accuracy parameters are measured in the temperature range of 25±5℃。

*2.The power rating is allowed at ambient temperature of 25˚C。

*3.If the operating voltage exceeds 1.05 times the rated voltage, it will cause permanent damage to the device。

*4.The input value of voltage and current shall not be less than 5%F.S.；

*5.Rise/fall slope: The rise/fall slope of 10% to 90% current from 0 to maximum current。

|Dimension picture