

# FT6200A Series Load (150 W, 300 W)



## Low-power Programmable DC Electronic Load



FT6213A 300 W/500V/15A (1/2 2U)

- Voltage range: 150 V, 500 V;
- Current range: 15 A, 30 A;
- Rated power: 150 W, 300 W;
- Voltage Accuracy (0.025%+0.025%F.S.), Current Accuracy (0.05%+0.05%F.S.);
- Min resolution: voltage 0.5mV, current 0.05mA;
- CC, CV, CR, CP static test mode, dynamic test up to 50 KHz;
- Fast NG/GO detection to tell if the DUT is within specification (in static test and dynamic test mode);
- Adjustable current slew rate, Von and Voff are settable;
- Testing of OCP, OPP, LED simulation, Load effect, battery inner resistance, battery discharge;
- Short circuit simulation;
- 10 programmable sequence test files, each with 100 steps, sequence file can be linked;
- 50 programmable automatic test files, each with 20 steps, self-starting is allowed;
- Store and recall up to 20 groups of setups;
- Flexible triggering options via front panel, external input, or bus (used for dynamic test, automatic test);
- Voltage remote sense function;
- Standard current monitoring port and digital I/O port;
- ±OVP, ±OCP, ±OPP, ±LVP, OTP etc.. protection functions;
- Standard RS232, supports SCPI programming commands;
- 4.3-inch TFT color LCD display.

### General

FT6200A series is a full-featured 150 W/300 W programmable electronic load. The load adopts 2U half-rack chassis design, offers 150 V or 500 V voltage range and 15 A or 30 A current range. It provides a 4.3-inch color LCD, GO/NG output port, and advanced features such as sequence mode programming, auto test programming, OCP test, OPP test, battery discharge test, short circuit simulation, etc., to name a few. Enhanced features include sequence file and auto test file sequencing and step triggering for synchronizing events. Additionally, the GO/NG output port is useful for UUT's pass/fail testing on an automated production line or ATE system.

Overall, the FT6200A series loads are reliable, high efficient and precision instruments primarily designed to test switching power supplies, A/D power supplies, power electronic components, adapters, 3C batteries and chargers, etc..

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### Transient test

Modern electronic devices operate at very high speeds and demand rapid transient response characteristics. To address these applications, the series offers high speed, programmable dynamic current loading (CCD). The user programmable parameters includes current high/low level, T1/T2, rise/fall rate. The dynamic loading supports continuous, pulse, and toggle modes. When configured as pulse or toggle mode, the load can accept a trigger signal via front panel, external input, or bus, which allow the dynamic load behavior to be synchronized with other events. The dynamic change is up to 50kHz.

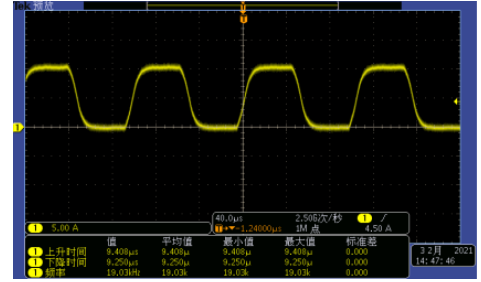
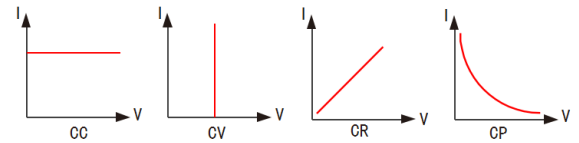


Figure: 10 KHz dynamic loading

### Static test

The FT6200A series electronic load has four static test modes: constant current, constant voltage, constant resistance and constant power, which can meet comprehensive test requirements.

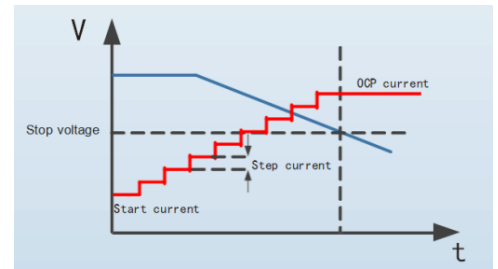


### Programmable sequence test

All models provides a programmable sequence function to simulate various load input changes. The sequence feature allows users to program a list of steps to the electronic load's internal memory and execute them. Sequence operates in CCH mode, with max. current slew rate by default. A total of 100 steps can be allocated to each internal memory location, up to a maximum of 10 locations (sequences). The test sequence can be programmed locally through the keypad and knob. Each steps' settings include load value, duration time (50 us ~ 36000 s). Sequence files runs continuously, can be linked to specified sequences, or run for a specified cycles.

### OCP/OPP test

All models provides OCP and OPP test feature, which enables the user to set current or power orders to test overcurrent or overpower protections, also to judge the test result as Pass or Fail on electronic load. The maximum current ( $I_{max}$ ) or maximum power ( $P_{max}$ ) during test can be captured and showed on the display without using an oscilloscope to verify the correctness of designed overcurrent or overpower.



### Automatic test

The principle of the automatic test function is: the load executes the test steps in programmed order according to the automatic test file. In each test step, the load is loaded in specified mode (CC, CV, CR, CP) for a period of time, in the mean time the voltage, current and power are checked to see if they are within the specified range. After running all the test steps, the final result PASS or FAIL is given. In addition, in automatic test the load can accept a trigger signal via front panel, external input, or bus, which allow the test behavior to be synchronized with other events. FT6200A series load can store up to 50 automatic test files, and each file with up to 20 test steps.

### Battery discharge test

The battery discharge test function offers three discharge modes: CC, CR and CP. Users can set the cut-off voltage/time/AH, discharge process shall terminate either condition is satisfied. The load will record the AH, WH and discharge time during the discharge process. This discharge test feature can also apply to super capacitor discharge test.

### Model options

Model	Specification	Size
FT6211A	150V/30A/150W	1/2 2U
FT6212A	150V/30A/300W	1/2 2U
FT6213A	500V/15A/300W	1/2 2U

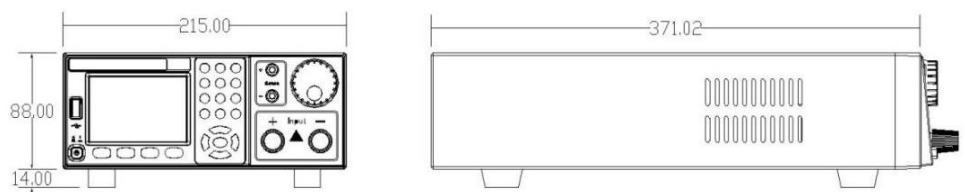


Figure: Dimensions of the FT6200A series

**FT6200A Series (150 W, 300 W)**

Specifications						
Model	FT6211A		FT6212A		FT6213A	
Voltage	150V		150V		500V	
Current	30A		30A		15A	
Power	150W		300W		300W	
Min Operate Voltage	1.2V@30A		0.9V@30A		3V@15A	
Constant Current (CC)						
Range	3A	30A	3A	30A	3A	15A
Resolution	0.05mA	0.5mA	0.05mA	0.5mA	0.05mA	0.25mA
Accuracy	0.05%+0.05%F.S.					
Constant Voltage (CV)						
Range	30V	150V	30V	150V	100V	500V
Resolution	0.5mV	2.5mV	0.5mV	2.5mV	2mV	8.5mV
Accuracy	0.025%+0.025%F.S					
Constant Resistance (CR)						
Range	0.04Ω~10 Ω	10Ω~20kΩ	0.03Ω~10Ω	10Ω~20kΩ	0.2Ω~10Ω	10Ω~20kΩ
Accuracy	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 (CP)						
Range	150W		300W		300W	
Accuracy	0.1%+0.1%F.S.		0.1%+0.1%F.S.		0.1%+0.1%F.S.	
Dynamic						
T1&T2	10us ~ 50s		10us ~ 50s		10us ~ 50s	
Slew Rate	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
Accuracy	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
Accuracy	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
Others						
Dimension (H*W*D)	88×215×380					
Weight	4kg		5kg		5kg	
Operate Temperature	0°C~40°C					