TESC7032 Series

Electrostatic Chuck Power Supply | ±5kV,50W, 20ms polarity switching response

- +24V DC Input
- Independent two channels output, ±5kV each channel
- Maximum 35mA for each channel
- Ripple <20ppm
- 20ms polarity switching time
- Polarity hot switch
- Analog and RS485 interface
- 100nF capacitance position detection

Introduction:

TESC7032 Series static chuck dedicated high voltage power supply provides precise output of ±5kV/35mA (±1%, ripple <100mVp-p), and supports load capacitance detection for under 100nF load. It has the of 20ms fast zero-crossing switching, integrates multiple protection functions, and supports analog/RS485 control and LCD display. It has been applied in semiconductor implantation and etching equipment, with stable and reliable performance. Its compact and lightweight packaging design can be OEM.

Application:

E-Chuck.

Specification:

Input	+24VDC±5%. 5A.
Input port	125 pins.
Output	Independent 2 channels.
Voltage range	-5kV to +5kV adjustable each channel.
Output current	Setting range 0 ~35mA (load < 1μF).
Voltage accuracy	±1% of rated value.
Ripple	Typical < 100mVp-p, (10nf, 0~1 MHz).
Pass 0	Yes.
Over-shoot	Typical < 2V (Load capacitance 10nF, from -5kV, to +5kV).
Output delay	Less than 3ms.
Switching period	Typical 20ms (Load capacitance 10nF, from -5kV, to +5kV).
Frequency	Typical 50Hz (Load capacitance 10nF, from -5kV, to +5kV).
Output Impedance	>20kΩ(single channel).
Voltage display	Resolution= 1V. Accuracy = ±50V.
Current display	Resolution= 10μA. Accuracy = Actual value ± 100μA, bias ±2%.
Stability	2V/s.
Line regulation	<0.1% when input change within 10%.
Load regulation	<1.3% from 0 to full load.
Protection	Arc and short-circuit protection. Input and output current limiting. Output current setting range between 0.1mA to 2mA.
Local control	Voltage adjustment, current setting, d-chuck button, LCD display.

Communication	DB25 analog, RS-485.
Interface signal	0 to 10V corresponding to -5kV to +5kV.
Typical Load capacitance	<10nF.
Load detection	<100nF (need external detection module).
Temperature coefficient	<300ppm/℃ for current and voltage. At full load<0.1%p-p.
Dimensions	241 mm *88 mm *411mm（W*H*D）.
Environmental	Operational：0˚C to 45˚C；Storage：-20˚C to 70˚C.
Humidity	0 to 85%RH, non condensing.
Cooling	Convection

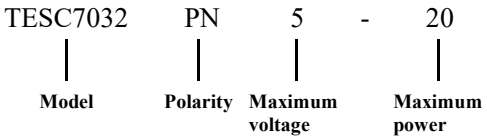
Description of Model Code

The model code represents the performance and parameters of the power supply, which are:

Maximum output voltage in kV;

Maximum output power in W;

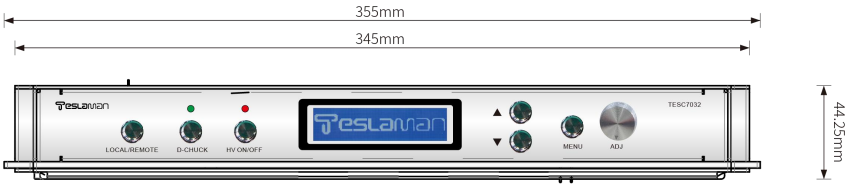
Output polarity, PN for bipolar;



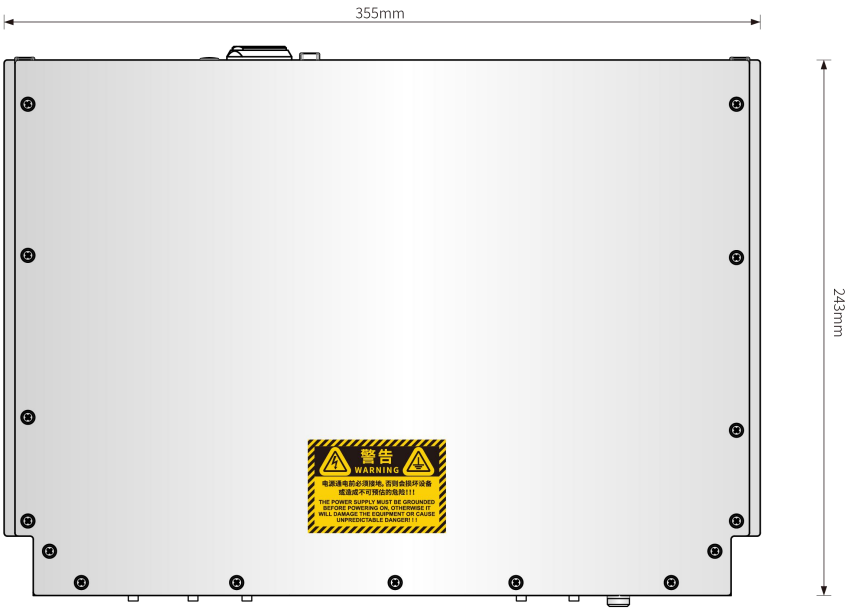
TESC7032 Model Selection Table

Rated Output		Model
kV	mA	
1	35	TESC7032PN1-35
3	35	TESC7032PN3-105
5	35	TESC7032PN5-175

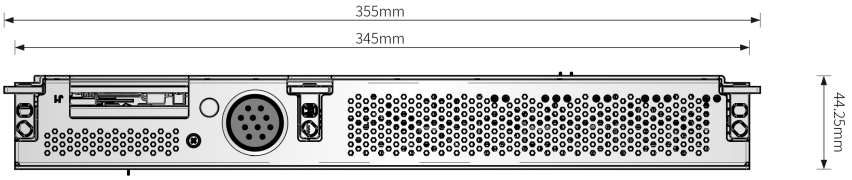
Dimensions：mm



Front View



Top View



Rear View