TESC7081 Series

E-Chuck Power supply| ±5kV,32.5W,20ms Polarity switch response, 2 independent output channels

- Coulomb type
- Customizable clamping/releasing sequence and waveform, configuration files can be uploaded and stored via the software interface;
- Front-panel control can be locked to prevent accidental operation;
- Support for parameter adjustment such as overcurrent, wafer status, clamping threshold,
- voltage control, etc.; Support for amplitude/offset online adjustment and diversified output control;
- Output can be via RS485 communication or front-panel operation

Product Introduction:

TESC7081 series static chuck high voltage power supply is a high-performance power product designed specifically for driving static chuck devices. a dual independent output design, each output can provide ±5kV, and the polarity switching time is less than 20ms. This product not only comes with detailed users but also shows excellent energy efficiency in actual applications. According to customer feedback, the production efficiency has been significantly improved after the system was equipped with this power supply, even reaching more three times of other similar systems. In addition, the TESC7081 series has successfully addressed industry-common problems such as wafer adhesion and cracking, thereby greatly the control capability of particle pollution. With its excellent versatility and stable performance, the TESC7081 series can be widely used in a variety of special process scenarios to the high standards of different customers.

Typical Applications:

E-Chuck,Electrostatic driving material handling, semiconductor wafer processing, non-mechanical conveyance of flat panels or other materials sensitive to mechanical shearing.

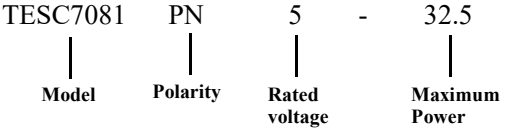
Specification Description:

Input	+24VDC±5%,6A.
Channels	Independent 2 channels output.
Output Range	-5kV~+5kV continuously adjustable for each channel.
Output Current	6.5mA.
Voltage Accuracy	±1% of rated value.
Ripple	0.1%p-p.
Hot switchable	Yes.
Overshoot	Typical<2V (Form-5kV to +5kV when load is 10nf).
Output Delay	<3ms.
Switching Time	Typical 20ms（Form-5kV to +5kV when load is 10nf）.
Frequency	Typical 50Hz（Form-5kV to +5kV when load is 10nf）.
Output Impedance	＞20kΩ/channel.
Voltage Display	Resolution= 1V. Accuracy <±50V.

Current Display	Resolution=10μA. Accuracy=Actual value ±100μA bias ±2%.
Stability	<0.01% every 8 hours after half hour warm-up.
Line Regulation	<0.1% for 10% input voltage change under any load condition.
Load Regulation	<1.3% form no-load to full load.
Protection	Input under/over voltage,over current,Output over voltage,over current, over temperature.
Front Panel Control	LCD Screen,Voltage setting、Current setting、d-chuck.
Communication	DB25 analog,RS-485 series port, could customize for other option.
Control Signal Parameters	0 for -5kV,5V for 0kV,10V for +5kV（could customize for other option）.
Typical load capacitance	<10nF (Please contact us for other value).
Load detection range	<100nF.
Temperature Coefficient	Voltage and current <300ppm/℃. Full load<0.1%p-p,Max output.
Environmental	Operational：0˚C to 45˚C；Storage：-20˚C to 70˚C.
Humidity	0 to 85%RH,non-condensing.
Cooling	Convection.
Dimensions	W482.6mm ,H44mm ,D481mm.

Description of Model Code

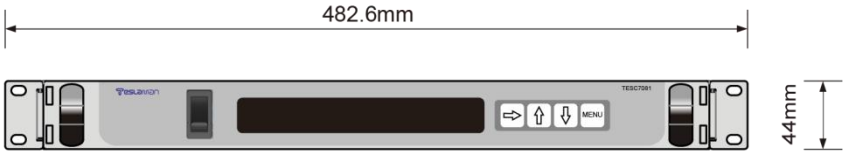
The model code represents the performance and parameters of the power supply, which are:
Maximum output voltage in kV;
Maximum output power in W;
Output polarity, PN for bipolar



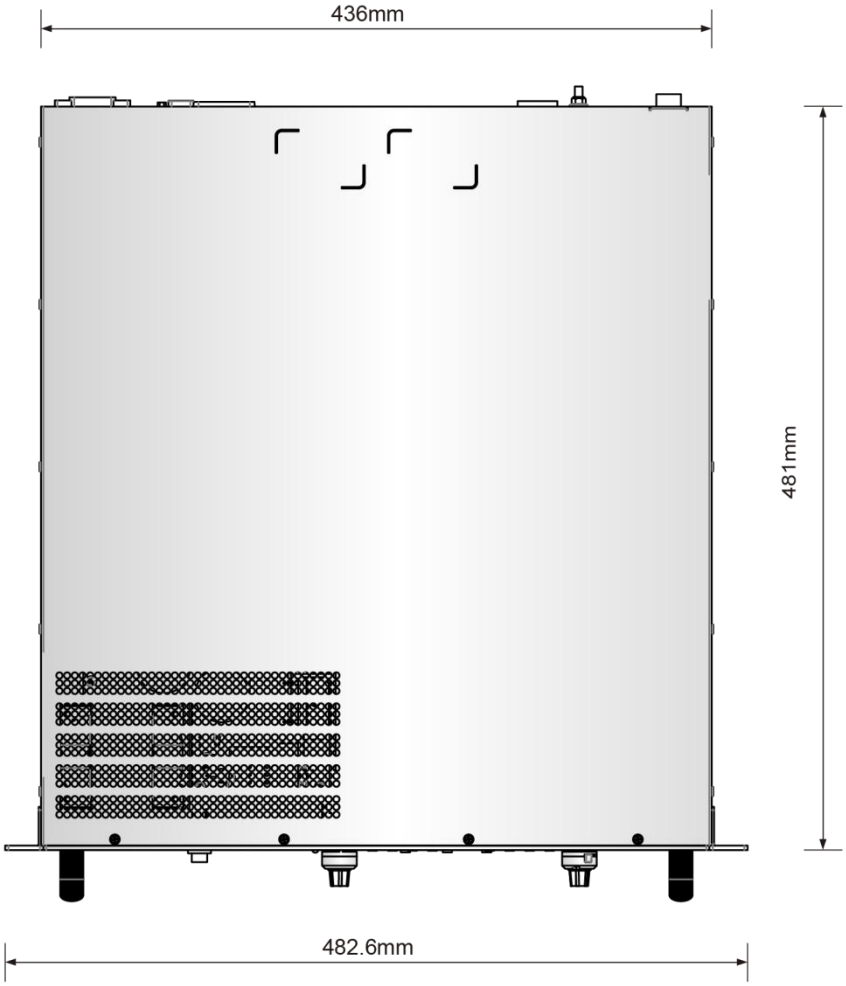
TESC7081 series model selection table

Rated Value		Model
kV	mA	
1	6.5	TESC7081PN1-6.5
3	6.5	TESC7081PN3-19.5
5	6.5	TESC7081PN5-32.5

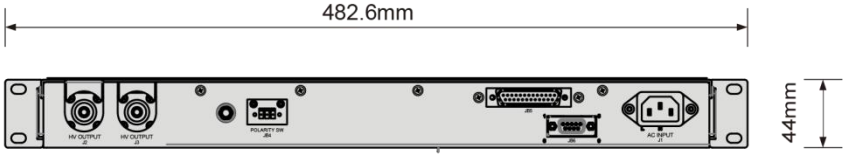
Dimensions：mm



Front View



Top View



Rear View