

## FPS08-15K Data Sheet

### Abstract

FPS08-15K is a dual-channel, high-insulation DC/DC power supply for 3.3kV, 4.5kV and 6.5kV IGBT gate driver power sources. The output voltage is +15V and -10V, and the maximum power is 8W. FPS08-15K can provide power supply for the high-voltage gate driver core HV1027P, or other gate drivers with the same voltage.



Fig1. FPS08-15K

### Highlights

- ✓ Primary and secondary side insulation 15KV<sub>RMS</sub>
- ✓ Primary and secondary side creepage distance 60mm
- ✓ Output power 8W
- ✓ 14~25V wide range of input voltage
- ✓ Output power supply overload protection
- ✓ Primary and secondary side coupling capacitance 5pF

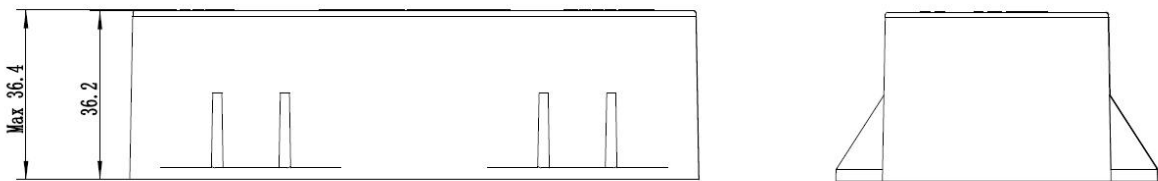
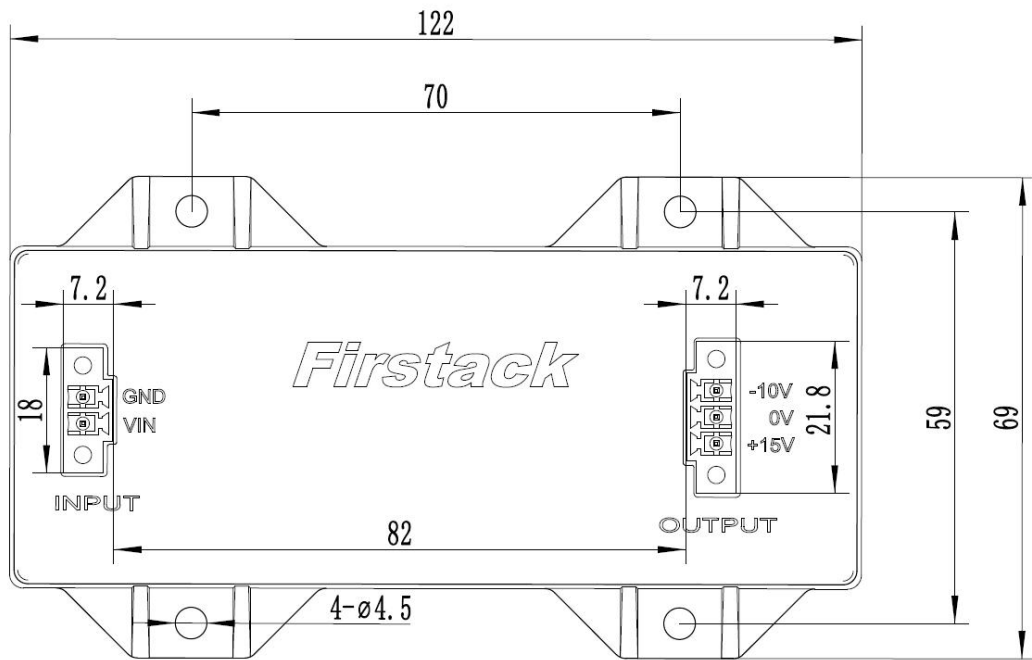
### Typical application

- ✓ Traction
- ✓ Rail
- ✓ Industrial drives
- ✓ HVDC
- ✓ FACTS
- ✓ Medium voltage inverter

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**Mechanical dimensions**



Unit: mm

Fig.2 3D picture

- Note: 1. The thickness tolerance of the board is  $\pm 10\%$ ;  
 2. Other dimensional tolerances refer to GB/T1804-m.

**Pin functional description**

J1 is the DC input terminal

J1-1=GND                      J1-2=VIN

J2 is the DC output terminal

J2-1=-9.5V              J2-2=GND              J2-3=+15V

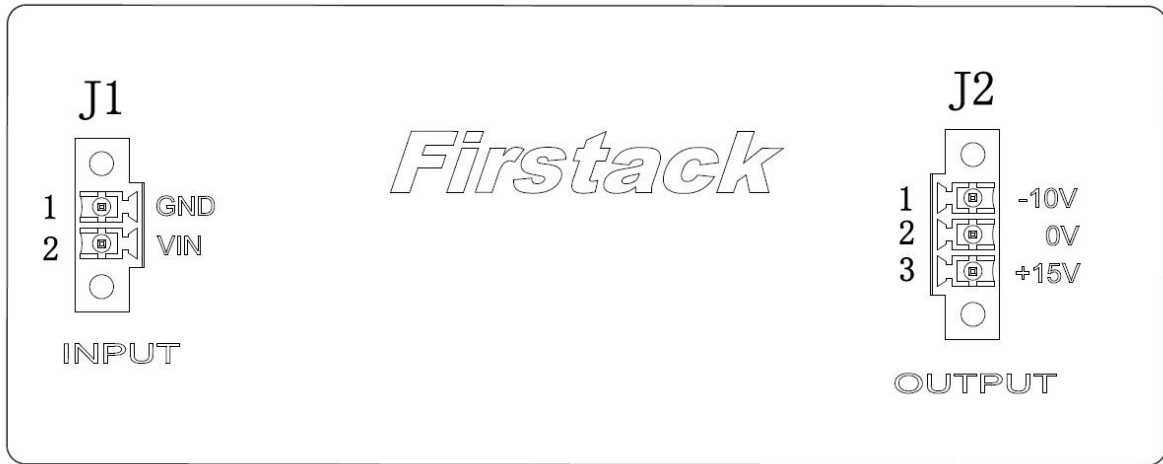


Fig.3 I/O terminal diagram

**Connector Manufacturer and Part Number**

Number	Ref	Manufacturer	Part Number	Recommended Matching Terminal
1	J1	WE	691323300002	691364300002
2	J2	WE	691325310003	691364300003

## Driving parameters

### Absolute Maximum Ratings

Parameter	Ref	Min.	Typ.	Max.	Unit	Note
Input voltage		0		27	V	Input VCC to input GND
Input current				1	A	13V input
Power supply output power				8	W	$T_A \leq 65^\circ\text{C}$
Dielectric withstand voltage				15	kV <sub>RMS</sub>	Primary to secondary side
Operating temperature	T <sub>op</sub>	-40		+85	°C	As temperature derating curve
Storage temperature	T <sub>stg</sub>	-40		+85	°C	

### Electrical Characteristics

Output Characteristics	Min.	Typ.	Max.	Unit	Note
Output voltage +15V	14.6	15.2	16	V	Without load, Note 1
		15.2		V	Load=0.35A, Note 1
Output voltage -10V	9.2	-9.6	-10.4	V	Without load, Note 1
		-9.6		V	Load=0.25A, Note 1
Input Characteristics	Min.	Typ.	Max.	Unit	Note
Input voltage	14	15/24	25	V	Input VCC to input GND
		0.08		A	Without load (15V input)
Supply current		0.26		A	Load 3W (15V input)
		0.18		A	Load 3W (24V input)
Turn-on threshold		10.8		V	Note 2
Electrical Isolation	Min.	Typ.	Max.	Unit	Note
Dielectric test voltage			15	kV <sub>RMS</sub>	Primary to secondary side, AC/1 min
Withstand voltage			6.5	kV <sub>peak</sub>	Primary to secondary side
Creepage distance	60			mm	Primary to secondary side, Note 3
Clearance distance	50			mm	Primary VS secondary side, Note 4

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Coupling Capacitance	5	pF	Primary to secondary side
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**Note:**

1. Output voltage range may deviate with and without load.
2. When the input voltage is over 10.8V, the power supply starts to work.
3. The shortest distance between input and output along the insulating surface.
4. The shortest distance between input and output.

## Characteristic curve

### 1、 Output U-I curve

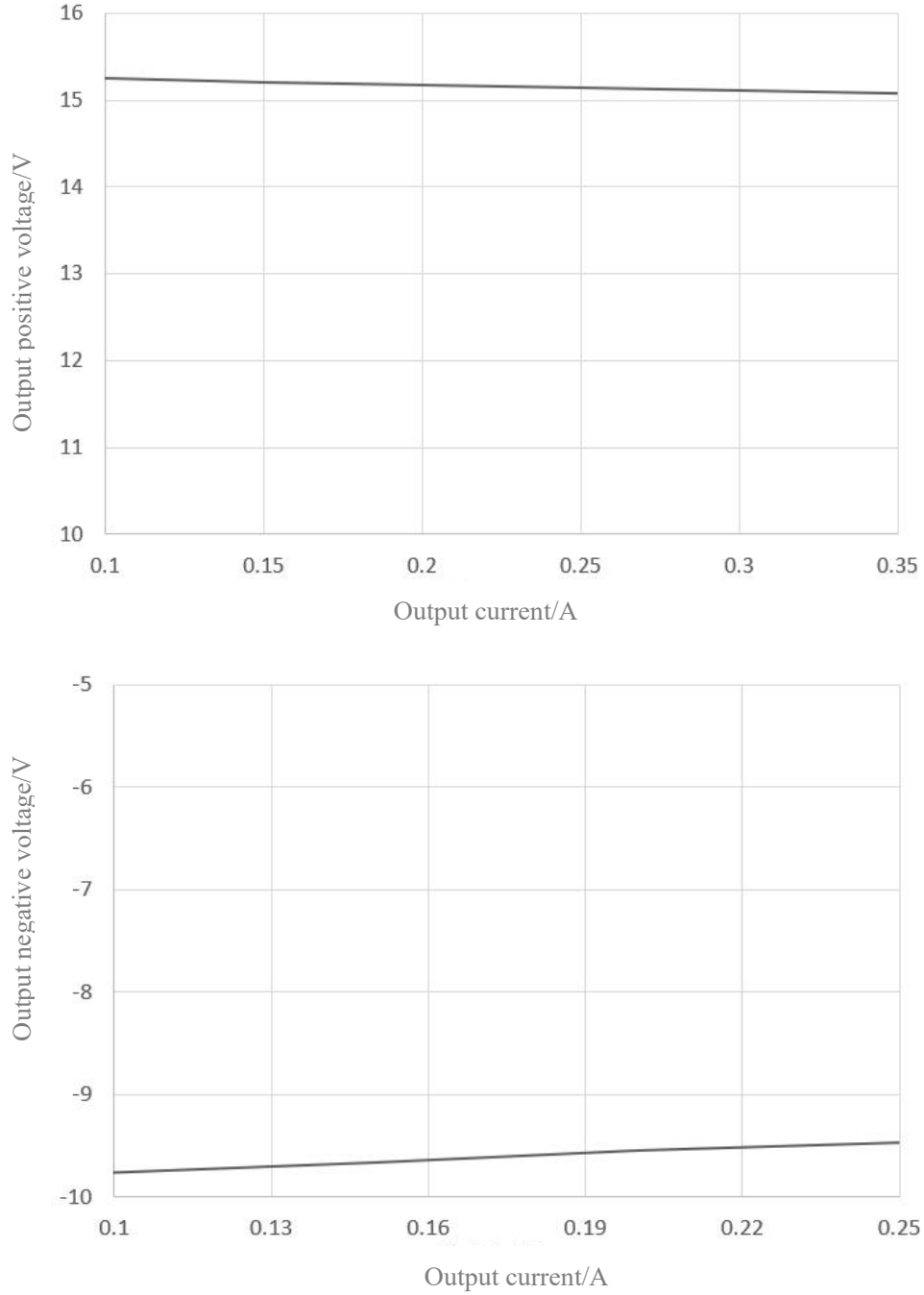


Fig.4 Output voltage VS output current

## 2、 Derating curve

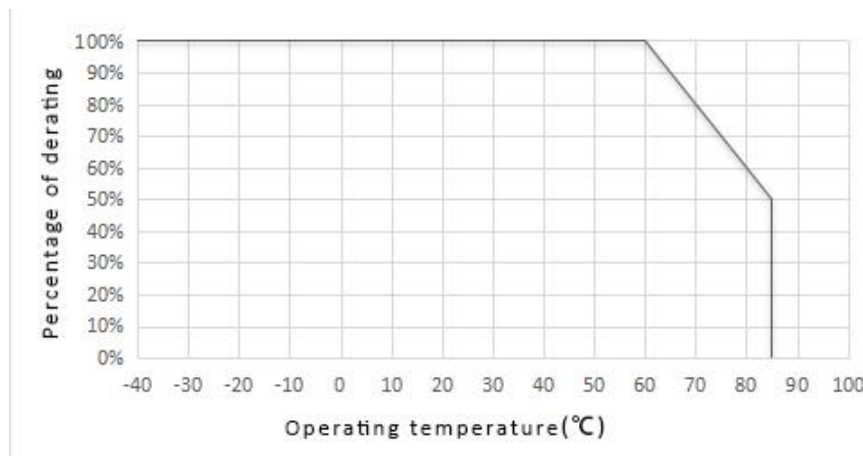


Fig.5 Derating curve



## Technical support

Firstack's professional team will provide you with business consultation, technical support, product selection, price, lead time and other related information, and guarantee to answer your questions within 48 hours.

## Legal disclaimer

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