osi1625 Series

6 kV; 60 W / 125 W; low overshoot



Product Introduction

The OSIMAI osi1625 series high-voltage modules deliver up to 60 W or 125 W for systems requiring high energy into large capacitive loads, high response rates, or continuous high power.

Product Features

- 60 W / 125 W high-power output
- Low stored energy; fast rise time; low overshoot
- At 0 V output, current adjustable from zero to maximum
- Output short-circuit protection
- High power/voltage density
- High efficiency
- Ultra-thin design; digital control available
- Output voltage and current monitoring
- Customization available

Specifications

Parameter	Description
Input voltage	Typical: +23 to +30 VDC. Derated-power input voltage for 60 W / 125 W: +11 to +30 VDC.
Input current	Standby: 40 mA. No load: 1250 mA. Full load: <13 A.
Output voltage	0.125, 0.25, 0.5, 1, 2, 4 or 6 kV.
Ripple	Better than 1% rms at rated output; 0.1% rms optional, at maximum load and maximum output.
Stability	After 0.5-hour warm-up: <0.01%/8 h, 0.02%/24 h.
Voltage line regulation	<0.01%.
Voltage load regulation	<0.01%.
Current line regulation	<0.01%.
Current load regulation	<0.01%.
External output voltage control	External 20 kΩ potentiometer; 0 to +5 VDC = 0–100% rated output; Zin = 10 MΩ.
External output current control	External 20 kΩ potentiometer; 0 to +5 VDC = 0–100% rated output; Zin = 10 MΩ.
Voltage monitoring	0 to +5 VDC = 0–100% rated output; Zout = 464 Ω ±1%.
Current monitoring	0 to +5 VDC = 0–100% rated output; Zout = 464 Ω ±1%.
Overshoot	Capacitive load: less than 1% Vpk from zero to maximum output.
Rise time	Proportional to maximum output current, capacitive load and output voltage.
Ambient temperature	Operating: −10 to +50°C; customization within −55 to +85°C available. Storage: −55 to +105°C.
Temperature coefficient	Voltage and current: better than 50 ppm/°C; 25 ppm/°C optional.
Thermal shock test	−40 to +65°C, optional.
Humidity	0–95% RH, non-condensing.
Operating altitude	Sea level to 70,000 ft, optional.
Dimensions	W 114.3 × H 27 × D 101.6 mm.

Model Selection (Customizable)

Output kV	Output mA	Positive model	Negative model
1	125	osi1625P1-125	osi1625N1-125
2	62.5	osi1625P2-125	osi1625N2-125
3	41.67	osi1625P3-125	osi1625N3-125
4	31.25	osi1625P4-125	osi1625N4-125
5	25	osi1625P5-125	osi1625N5-125
6	20.83	osi1625P6-125	osi1625N6-125

RS-232 / RS-485 Communication Interface

Pin	Signal	Description
2A	TX/A	TXD transmit data / RS-485A
9A	RX/B	RX receive data / RS-485B
10	D	Digital ground

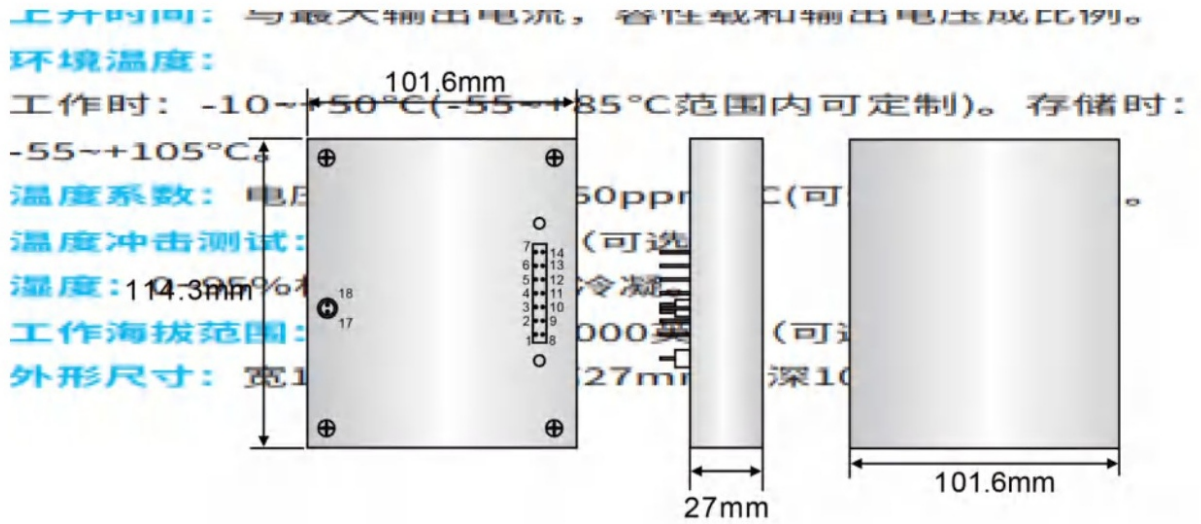
Power Supply Pin Definitions

Pin	Signal	Description
1, 8	NC	/
2, 9	NC	/
3	Current monitor (Imon)	0 to +5 VDC = 0–100% rated output; Zout = 464 Ω
4	Low enable (LS)	High voltage ON: grounded; OFF: floating
5	Signal ground (SGND)	Signal ground
6	Voltage setting (Vp-in)	0 to +5 VDC = 0–100% rated output; Zin = 10 MΩ
7	+5 VDC (Vref)	+5 VDC reference voltage
10	NC	/
11	Current mode (Imode)	Low when module operates in current mode
12	Voltage mode (Vmode)	Low when module operates in voltage mode
13	Current setting (Ip-in)	0 to +5 VDC = 0–100% rated output; Zin = 10 MΩ
14	Voltage monitor (Vmon)	0 to +5 VDC = 0–100% rated output; Zout = 464 Ω
15, 16	High-voltage ground	High-voltage ground
17, 18	Power input	+24 VDC input; standard voltage range +23 to +30 VDC
19, 20	Power ground	Power ground
21	High-voltage output	High-voltage output

Typical Applications

Laser pulses; capacitor charging; pulsed power supplies; pulse generators; test equipment; ion pumps; plasma generators; electrostatic precipitation; high-voltage amplifier bias; industrial testing; TDR; wire testing; cable testing; traveling-wave tubes.

Dimensions



Source overlapping labels retained.

Rise time is proportional to maximum output current, capacitive load and output voltage. Operating temperature: −10 to +50°C; customization within −55 to +85°C is available. Storage temperature: −55 to +105°C. Temperature coefficient: voltage and current better than 50 ppm/°C; 25 ppm/°C optional. Thermal shock test: −40 to +65°C, optional. Humidity: 0–95% relative humidity, non-condensing. Operating altitude: sea level to 70,000 feet, optional. Dimensions: width 114.3 mm, height 27 mm, depth 101.6 mm.