osi1604 Series

0.3–3 kV, 1–5 W



Product introduction

The osi1604 series is a miniature high-voltage power module with output voltage 0.3–3 kV and output power 1–5 W. It features a miniaturized design, 10 ppm ultra-low noise, 10 ppm/hour stability, a 10 ppm/°C temperature coefficient and six-sided shielding. All models provide external potentiometer or reference-voltage programming, monitoring, and arc, short-circuit and overload protection.

Product features

- 10 ppm/hour stability
- 10 ppm ultra-low noise
- 10 ppm/°C temperature coefficient
- Six-sided shielding
- External potentiometer or voltage programming
- Customization available to user requirements

Specifications

Parameter	Specification
Input	+24 VDC ±2%; input current 500 mA.
Output	Selectable output ratings: 0.3, 0.5, 1, 1.25, 1.5, 2, 2.5 and 3 kV.
Stability	Less than 0.001% per hour after a 0.5-hour warm-up.
Temperature coefficient	Voltage and current: better than 10 ppm/°C.
Ripple	Better than 10 ppm peak-to-peak at rated output.
External voltage control	External 20 kΩ potentiometer or Vp-in control voltage 0 to +5 VDC; Zin = 100 kΩ.
Voltage monitor	0 to +5 VDC = 0–100% rated output; Zout = 20 kΩ; accuracy ±1%.
Voltage line regulation	±0.001% for ±2% input change.
Voltage load regulation	±0.01%, no load to rated load.
Ambient temperature	Operating: 0°C to +50°C. Storage: −40°C to +85°C.
Operating humidity	0–90% relative humidity, non-condensing.
Cooling	Natural convection.
Dimensions	17 mm wide, 40 mm high, 60 mm deep.
Weight	Approximately 65 g.

Model selection (customizable)

Output (kV)	Output (mA)	Positive polarity	Negative polarity
0.5	2	osi1604P0.5-1	osi1604N0.5-1
0.5	4	osi1604P0.5-2	osi1604N0.5-2
0.5	6	osi1604P0.5-3	osi1604N0.5-3
0.5	8	osi1604P0.5-4	osi1604N0.5-4
0.5	10	osi1604P0.5-5	osi1604N0.5-5
1	1	osi1604P1-1	osi1604N1-1
1	2	osi1604P1-2	osi1604N1-2
1	3	osi1604P1-3	osi1604N1-3
1	4	osi1604P1-4	osi1604N1-4
1	5	osi1604P1-5	osi1604N1-5
2	0.5	osi1604P2-1	osi1604N2-1
2	1	osi1604P2-2	osi1604N2-2
2	1.5	osi1604P2-2	osi1604N2-2
2	2	osi1604P2-4	osi1604N2-4
2	2.5	osi1604P2-5	osi1604N2-5
3	0.33	osi1604P3-1	osi1604N3-1
3	0.67	osi1604P3-2	osi1604N3-2
3	1	osi1604P3-3	osi1604N3-3
3	1.33	osi1604P3-4	osi1604N3-4
3	1.67	osi1604P3-5	osi1604N3-5

DB9 connector signal definitions

Pin	Signal
1	Power input +24 VDC ±2%; optional +12 VDC ±2% or +15 VDC ±2%
2	Power/signal ground
3	Voltage programming: 0 to +5 VDC = 0–100% rated output; Zin = 100 kΩ
4	Reference voltage +5 VDC
5	Active-low enable: ON = GND; OFF = OPEN
6	High-voltage output
7	High-voltage ground
8	Current monitor: 0 to +5 VDC = 0–100% rated output current; Zout = 20 kΩ
9	Voltage monitor: 0 to +5 VDC = 0–100% rated output voltage; Zout = 20 kΩ

Typical applications

Mass spectrometry; photomultiplier tubes; microchannel plates; proportional counters; Geiger tubes; avalanche photodiodes; solid-state detectors; ionization chambers; gas chromatography; electron-multiplication detectors; nuclear instrumentation; electrophoresis; DNA sequencing; radiation counters; electron beams; ion beams; high-voltage bias; dielectric withstand testing; precision lens image intensifiers; semiconductor testing; electrostatic discharge (ESD) testing; pulsed power supplies; capacitor charging; life sciences; medical and chemical applications; scientific experiments; industrial applications.

Outline dimensions

Dimensions in mm.

