osi1614 Series

300 V–1.5 kV, 9.75 W



Product introduction

The osi1614 series is a high-performance DC-DC converter with excellent regulation, a 0.3–1.5 kV operating output range and floating 1.5 kV, 6.5 mA output capability. Isolated output allows flexible connection of the positive/negative load terminals or polarity reversal. Precise confinement of pulse current to defined paths reduces noise and interference, maintaining signal purity. Low output ripple makes it particularly suitable for pulsers in mass spectrometry. Shielded metal packaging and two fixed HV output cables provide safety and stability in high-voltage environments.

Product features

- Low ripple
- Compact design
- Programmable 1.5 kV output
- Floating output

Specifications

Parameter	Specification
Input voltage	+24 VDC ±10%; reverse-connection protection.
Input current	Maximum 725 mA at rated output.
Output polarity	Positive or negative, isolated 1.5 kV.
Output voltage	300 V–1.5 kV, continuously adjustable over the entire output range.
Output current	Maximum 6.5 mA.
Power	Maximum 9.75 W.
Regulation	Line: <0.5% for ±10% input voltage change. Load: <0.1% from zero to full load.
Stability	Less than 0.03% per 8 hours after a 1-hour warm-up. Under constant operating conditions, less than 0.01% per 8 hours after 2 hours. Typical: less than 50 ppm/hour after 1 hour and less than 15 ppm/hour after 2 hours.
Temperature coefficient	Voltage and current: better than 100 ppm/°C; typically better than 25 ppm/°C.
Ripple	<0.005% peak-to-peak with both ends grounded and at full load.
Output current limit	Limited to 9 mA. Indefinite output short circuit or overload is tolerated; automatic recovery follows removal of the short circuit.
Dynamic supply-voltage rejection	<20 mV for a 1 V input step within +24 VDC, +10%/−2%.
Settling time	≤500 ms.
Output capacitance	>400 nF, directly connected between positive and negative output nodes.
Ambient temperature	Operating: +15°C to +50°C. Storage: −40°C to 70°C.
Humidity	5–95% relative humidity at 40°C, non-condensing.
Cooling	Convection cooling.
Interface connector	20-pin male IDC connector.
Dimensions	115 mm wide, 95 mm high, 39.2 mm deep.
Weight	0.3 kg.

Power supply pin definitions

Pin	Signal	Description
1	Voltage control return	Analog ground
2	Voltage control	0 to +10 VDC = 0 to 1.5 kV (differential input); Zin = 100 kΩ; protected against input <11 V and reverse voltage
3	Voltage control return	Analog ground
4	NC	/
5	Voltage control return	Analog ground
6	NC	/
7	Voltage control return	Analog ground
8	NC	/
9	Voltage control return	Analog ground
10	Voltage monitor	+2 VDC to +10 VDC = 300 V to 1.5 kV; ±1%; Zout = 1 kΩ
11	NC	/
12	Enable	TTL low = HV ON, referenced to +24 VDC return
13	NC	/
14	NC	/
15	NC	/
16	NC	/
17	+24 VDC return	Power return (power ground)
18	+24 VDC supply	+24 VDC, 725 mA
19	+24 VDC return	Power return (power ground)
20	+24 VDC supply	+24 VDC, 725 mA

Typical applications

Mass-spectrometer pulse generators; pulsed-load requirements.

Outline dimensions

Dimensions in mm.



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