

# 2 Watts ISP Series



- Single & Dual Regulated Outputs
- 2:1 Input Range
- SMD Package
- Industry Standard Pinout
- 1500 VDC Isolation
- -40 °C to +85 °C Operation
- 3 Year Warranty

## Specification

### Input

- Input Voltage Range • 12 V (9-18 VDC)  
24 V (18-36 VDC)
- Input Reverse Voltage Protection • None
- Input Surge • 12 V: 22 VDC for 100 ms  
24 V: 40 VDC for 100 ms

### Output

- Output Voltage • See table
- Minimum Load • 10%<sup>(1)</sup>
- Line Regulation • ±0.5%
- Load Regulation • ±1%, balanced load on dual outputs
- Setpoint Accuracy • ±3%/±5%, positive/negative output
- Ripple & Noise • 150 mV pk-pk 20 MHz bandwidth
- Temperature Coefficient • 0.03%/°C
- Short Circuit Protection • Continuous, automatic recovery

### General

- Efficiency • See table
- Isolation Voltage • 1500 VDC
- Isolation Resistance • 10<sup>9</sup> Ω
- Isolation Capacitance • 85 pF typical
- Switching Frequency • 300 kHz typical at nominal input, full load
- MTBF • >1 Mhrs to MIL-HDBK-217F at 25 °C, GB

### Environmental

- Operating Temperature • -40 °C to +70 °C, derate linearly to 0% load at +100 °C
- Storage Temperature • -55 °C to +125 °C
- Case Temperature • 100 °C max
- Cooling • Convection-cooled
- Lead Temperature • 240 °C, 0.06 in (1.5 mm) from case, 10 s

### Notes

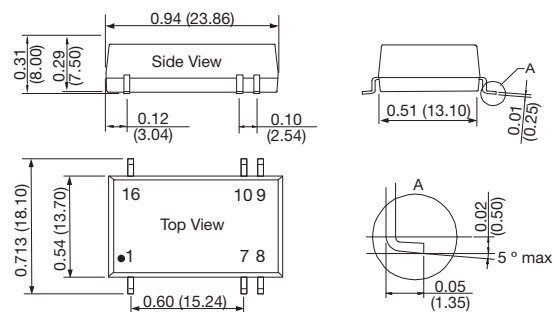
1. Operation at no load will not damage unit but it may not meet all specifications.

Input Voltage	Output Voltage	Output Current	Efficiency (typ)	Model Number
12 VDC	3.3 V	500 mA	70%	ISP1203A†^
	5.0 V	400 mA	74%	ISP1205A†^
	9.0 V	222 mA	76%	ISP1209A†^
	12.0 V	167 mA	78%	ISP1212A†^
	15.0 V	133 mA	79%	ISP1215A†^
	±5.0 V	±200 mA	74%	ISP1205†^
	±12.0 V	±83 mA	78%	ISP1212†^
24 VDC	3.3 V	500 mA	72%	ISP2403A†^
	5.0 V	400 mA	76%	ISP2405A†^
	9.0 V	222 mA	78%	ISP2409A†^
	12.0 V	167 mA	80%	ISP2412A†^
	15.0 V	133 mA	80%	ISP2415A†^
	±5.0 V	±200 mA	74%	ISP2405†^
	±12.0 V	±83 mA	78%	ISP2412†^
	±15.0 V	±67 mA	80%	ISP2415†^

† Available from Farnell & element14. See pages 284-290.

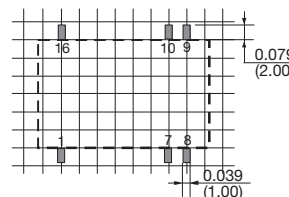
^ Available from Newark. See pages 291-296.

### Mechanical Details



### Recommended footprint

Top view grid: 0.1 x 0.1 in (2.54 x 2.54 mm)



Pin	Single	Dual
1	-Vin	-Vin
7	N.C.	N.C.
8	N.C.	0 V
9	+Vo	+Vo
10	0 V	-Vo
16	Vin	Vin

N.C. Not connected

### Notes

1. All dimensions in inches (mm)
2. Tolerance: ±0.010 (±0.25)

3. Pin tolerance: ±0.004 (±0.10 mm)
4. Weight: 0.011 lbs (5.2 g)