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%[1]
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

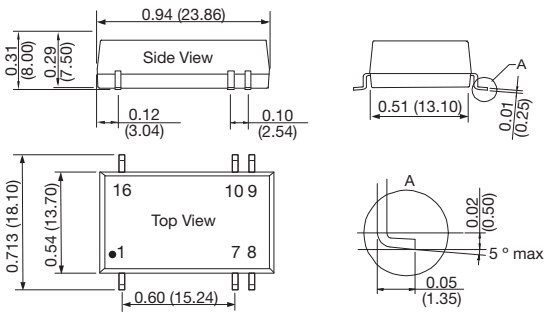
Efficiency	• See table
Isolation Voltage	• 1500 VDC
Isolation Resistance	• 10^9 Ω
Isolation Capacitance	• 85 pF typical
Switching Frequency	• 300 kHz typical at nominal input, full load
MTBF	• >1 MHrs to MIL-HDBK-217F at 25 °C, GB

Environmental

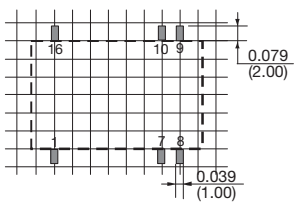
Operating Temperature	• -40 °C to +70 °C, derate linearly to 0% load at +100 °C
Storage Temperature	• -55 °C to +125 °C
Case Temperature	• 100 °C max
Cooling	• Convection-cooled
Lead Temperature	• 240 °C, 0.06 in (1.5 mm) from case, 10 s

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
	±15.0 V	±67 mA	80%	ISP1215
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

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

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)