

# 1 Watt

## IA Series



- Dual Output
- SIP or DIP Package
- 1000 VDC Isolation
- Short Circuit Protection
- -40 °C to +85 °C Operation
- MTBF >1.1 Mhrs
- 3 Year Warranty

### Specification

#### Input

- Input Voltage Range • Nominal  $\pm 10\%$ <sup>(5)</sup>
- Input Reflected Ripple Current • 20 mA pk-pk (5 Hz to 20 MHz with 12  $\mu$ H)
- Input Reverse Voltage Protection • None

#### Output

- Output Voltage • See table
- Minimum Load • None<sup>(6)</sup>
- Line Regulation • 1.2%/1%  $\Delta$  Vin
- Load Regulation •  $\pm 10\%$  20-100% load change (3.3 V models  $\pm 20\%$ )
- Setpoint Accuracy •  $\pm 3\%$
- Ripple & Noise • 75 mV pk-pk max, 20 MHz bandwidth
- Temperature Coefficient • 0.02%/°C
- Maximum Capacitive Load •  $\pm 100$   $\mu$ F

#### General

- Efficiency • See table
- Isolation Voltage • 1000 VDC minimum
- Isolation Resistance •  $10^9 \Omega$
- Isolation Capacitance • 60 pF typical
- Switching Frequency • Variable, 80 KHz typical
- MTBF • >1.12 Mhrs to MIL-HDBK-217F at 25 °C, GB

#### Environmental

- Operating Temperature • -40 °C to +85 °C
- Storage Temperature • -40 °C to +125 °C
- Case Temperature • 100 °C max
- Cooling • Convection-cooled

#### Notes

1. Replace 'S' in model number with 'D' for DIP package.
2. SIP 48 Vin models, dimension is 0.28 (7.20) max.
3. DIP 48 Vin models, dimension is 0.27 (6.88) max.
4. Outputs power-trade.
5. For 48 V models a 10  $\mu$ F capacitor is required between +Vin and -Vin pins.
6. Operation at no load will not damage unit but it may not meet all specifications.
7. All dimensions in inches (mm).
8. Pin pitch tolerance:  $\pm 0.014$  ( $\pm 0.35$ )
9. Case tolerance  $\pm 0.02$  ( $\pm 0.5$ )
10. Weight: SIP 0.004 lbs (2.2 g), 48 V SIP 0.005 lbs (2.7 g), DIP 0.005 lbs (2.4g)

Input Voltage <sup>(9)</sup>	Output Voltage	Output Current <sup>(4)</sup>	Efficiency	Model Number <sup>(1)</sup>
3.3 VDC	$\pm 5.0$ V	$\pm 100$ mA	66%	IA0305S <sup>^</sup>
5 VDC	$\pm 3.3$ V	$\pm 151$ mA	65%	IA0503S <sup>^</sup>
	$\pm 5.0$ V	$\pm 100$ mA	74%	IA0505S <sup>†^</sup>
	$\pm 9.0$ V	$\pm 55$ mA	77%	IA0509S <sup>†^</sup>
	$\pm 12.0$ V	$\pm 42$ mA	78%	IA0512S <sup>†^</sup>
	$\pm 15.0$ V	$\pm 33$ mA	80%	IA0515S <sup>†^</sup>
	$\pm 24.0$ V	$\pm 21$ mA	80%	IA0524S <sup>^</sup>
12 VDC	$\pm 3.3$ V	$\pm 151$ mA	66%	IA1203S <sup>^</sup>
	$\pm 5.0$ V	$\pm 100$ mA	75%	IA1205S <sup>†^</sup>
	$\pm 9.0$ V	$\pm 55$ mA	76%	IA1209S <sup>†^</sup>
	$\pm 12.0$ V	$\pm 42$ mA	78%	IA1212S <sup>†^</sup>
	$\pm 15.0$ V	$\pm 33$ mA	80%	IA1215S <sup>†^</sup>
	$\pm 24.0$ V	$\pm 21$ mA	76%	IA1224S <sup>^</sup>
24 VDC	$\pm 3.3$ V	$\pm 151$ mA	68%	IA2403S <sup>^</sup>
	$\pm 5.0$ V	$\pm 100$ mA	74%	IA2405S <sup>†^</sup>
	$\pm 9.0$ V	$\pm 55$ mA	76%	IA2409S <sup>^</sup>
	$\pm 12.0$ V	$\pm 42$ mA	78%	IA2412S <sup>†^</sup>
	$\pm 15.0$ V	$\pm 33$ mA	78%	IA2415S <sup>†^</sup>
	$\pm 24.0$ V	$\pm 21$ mA	78%	IA2424S <sup>^</sup>
48 VDC	$\pm 3.3$ V	$\pm 151$ mA	60%	IA4803S
	$\pm 5.0$ V	$\pm 100$ mA	70%	IA4805S <sup>†</sup>
	$\pm 9.0$ V	$\pm 55$ mA	72%	IA4809S
	$\pm 12.0$ V	$\pm 42$ mA	74%	IA4812S <sup>†</sup>
	$\pm 15.0$ V	$\pm 33$ mA	74%	IA4815S
	$\pm 24.0$ V	$\pm 21$ mA	70%	IA4824S

<sup>†</sup> Available from Farnell. See pages 266-269.

<sup>^</sup> Available from Newark. See pages 270-272.

### Mechanical Details

