

1 Watt IW Series



- Regulated Single & Dual Output
- Wide 2:1 Input Range
- SIP or DIP Package
- 1000 VDC Isolation (Optional 3000 VDC)
- Continuous Short Circuit Protection
- Optional Metal Case
- 3 Year Warranty

Specification

Input

- | | |
|----------------------------------|---|
| Input Voltage Range | • See table |
| Input Reflected Ripple Current | • 35 mA pk-pk through 12 μ H inductor, 5 Hz to 20 MHz |
| Input Reverse Voltage Protection | • None |
| Input Filter | • Capacitor |
| Input Surge | • 5 V models: 12 VDC for 100 ms
12 V models: 24 VDC for 100 ms
24 V models: 40 VDC for 100 ms
48 V models: 80 VDC for 100 ms |

Output

- | | |
|--------------------------|--|
| Output Voltage | • See table |
| Minimum Load | • None ⁽⁶⁾ |
| Line Regulation | • $\pm 0.5\%$ max |
| Load Regulation | • $\pm 1.0\%$ max from 25-100% load ⁽⁷⁾ |
| Setpoint Accuracy | • $\pm 2\%$ max |
| Ripple & Noise | • 80 mV pk-pk max, 20 MHz bandwidth ⁽⁶⁾ |
| Short Circuit Protection | • Continuous with auto recovery (foldback) |
| Cross Regulation | • $\pm 5\%$ on dual output models |
| Remote On/Off | • Optional on SIP package model ⁽⁴⁾ |
| Temperature Coefficient | • $0.02\%/^{\circ}\text{C}$ |

General

- | | |
|-----------------------|---|
| Efficiency | • See table |
| Isolation Voltage | • 1000 VDC (optional 3000 VDC) |
| Isolation Resistance | • $10^9\Omega$ |
| Isolation Capacitance | • 60 pF |
| Switching Frequency | • 100-650 kHz |
| MTBF | • >1.66 Mhrs to MIL-HDBK-217F at 25 $^{\circ}\text{C}$, GB |

Environmental

- | | |
|-----------------------|---|
| Operating Temperature | • -40 $^{\circ}\text{C}$ to +100 $^{\circ}\text{C}$, derate from 100% load at 85 $^{\circ}\text{C}$ to 0% load at 100 $^{\circ}\text{C}$ |
| Storage Temperature | • -40 $^{\circ}\text{C}$ to +125 $^{\circ}\text{C}$ |
| Case Temperature | • 100 $^{\circ}\text{C}$ max |
| Cooling | • Convection cooled |

Notes

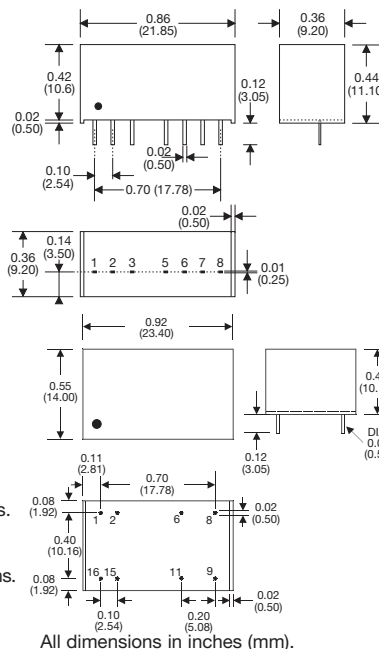
- For dual inline package replace 'S' in model number with 'D'.
- For optional 3 kV isolation add suffix '-H' to the model number.
- For dual output delete suffix 'A' & split output current equally between rails.
- For optional Remote On/Off on SIP models, add suffix '-R' to model number. Applying 5 V via 1 k Ω current limiting resistor and diode turns output off.
- For optional metal case, add suffix '-M' to model number, contact sales for details.
- Output capacitor of 100 μF required to meet quoted ripple & noise.
- Minimum load of 25% required to meet quoted specifications.
- Operation at no load will not damage the converter but it may not meet all specifications.
- Pin pitch tolerance: ± 0.014 (± 0.35), Case tolerance: ± 0.02 (± 0.5)
- Weight: SIP 0.009 lbs (4.0 g), DIP 0.013 lbs (6.0 g)
Metal case weight: SIP 0.014 lbs (6.5 g), DIP 0.017 lbs (8.0 g)

Input Voltage	No Load Input Current	Output Voltage ⁽⁸⁾	Output Current	Max. Capacitive Load	Efficiency	Model Number ⁽¹⁻⁵⁾
4.5-9.0 V	15 mA	3.3 V	303 mA	3300 μF	67%	IW0503SA [†]
	15 mA	5.0 V	200 mA	3300 μF	67%	IW0505SA [†]
	40 mA	9.0 V	111 mA	470 μF	70%	IW0509SA [†]
	55 mA	12.0 V	83 mA	470 μF	70%	IW0512SA [†]
	55 mA	15.0 V	67 mA	470 μF	70%	IW0515SA [†]
	70 mA	24.0 V	42 mA	220 μF	68%	IW0524SA [†]
9.0-18.0 V	15 mA	3.3 V	303 mA	3300 μF	70%	IW1203SA [†]
	15 mA	5.0 V	200 mA	3300 μF	72%	IW1205SA [†]
	15 mA	9.0 V	111 mA	470 μF	77%	IW1209SA [†]
	15 mA	12.0 V	83 mA	470 μF	77%	IW1212SA [†]
	15 mA	15.0 V	67 mA	470 μF	77%	IW1215SA [†]
	15 mA	24.0 V	42 mA	220 μF	73%	IW1224SA [†]
18.0-36.0 V	8 mA	3.3 V	303 mA	3300 μF	70%	IW2403SA [†]
	8 mA	5.0 V	200 mA	3300 μF	72%	IW2405SA [†]
	8 mA	9.0 V	111 mA	470 μF	75%	IW2409SA [†]
	8 mA	12.0 V	83 mA	470 μF	75%	IW2412SA [†]
	8 mA	15.0 V	67 mA	470 μF	75%	IW2415SA [†]
	8 mA	24.0 V	42 mA	220 μF	75%	IW2424SA [†]
36.0-72.0 V	6 mA	3.3 V	303 mA	3300 μF	66%	IW4803SA
	6 mA	5.0 V	200 mA	3300 μF	68%	IW4805SA
	6 mA	9.0 V	111 mA	470 μF	70%	IW4809SA
	6 mA	12.0 V	83 mA	470 μF	70%	IW4812SA
	6 mA	15.0 V	67 mA	470 μF	70%	IW4815SA
	6 mA	24.0 V	42 mA	220 μF	68%	IW4824SA

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

[^] Available from Newark. See pages 291-296.

Mechanical Details



PIN CONNECTIONS		
Pin	Single	Dual
1	-V Input	-V Input
2	+V Input	+V Input
3	Opt. ROF*	Opt. ROF**
5	N.P. / N.C.	N.C.
6	+V Output	+V Output
7	-V Output	-V Output
8	NC	Common

*When optional ROF is present pin 5 is No Connection. When not present pin 3 & 5 are No Pin.

**When optional ROF is present pin 5 is No Connection. When not present pin 3 & 5 are No Connection.

PIN CONNECTIONS		
Pin	Single	Dual
1	-V Input	-V Input
2	-V Input	-V Input
6	NC	Common
8	NC	-V Output
9	+V Output	+V Output
11	-V Output	Common
15	+V Input	+V Input
16	+V Input	+V Input