

1 Watt 1W 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°C to $+100^{\circ}\text{C}$, derate from 100% load at 85°C to 0% load at 100°C
- Storage Temperature** • -40°C to $+125^{\circ}\text{C}$
- Case Temperature** • 100°C max
- Cooling** • Convection cooled

Notes

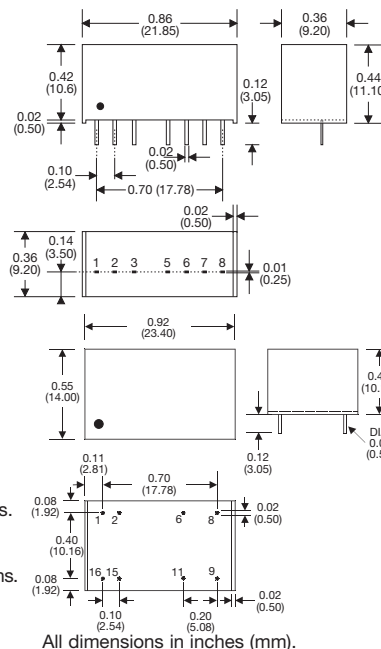
- For dual inline package replace 'S' in model number with 'D'.
- For optional 3 kV isolation add suffix '-H' to the model number.
- For dual output delete suffix 'A' & split output current equally between rails.
- For optional Remote On/Off on SIP models, add suffix '-R' to model number. Applying 5 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 ⁽⁹⁾	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†^
9.0-18.0 V	70 mA	24.0 V	42 mA	220 μF	68%	IW0524SA†^
	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†^
18.0-36.0 V	15 mA	15.0 V	67 mA	470 μF	77%	IW1215SA†^
	15 mA	24.0 V	42 mA	220 μF	73%	IW1224SA†^
	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†^
36.0-72.0 V	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†^
	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.

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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