



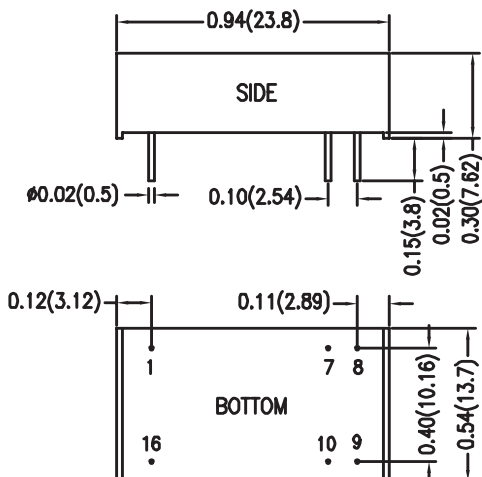
# 2 Watt DPW Single and Dual Series



- Efficiency up to 81%
- 1500VDC Isolation
- MTBF > 1,000,000 Hours
- 2:1 Input Range
- Short Circuit Protection
- CSA60950 Approved
- RoHS Compliant



Model Number	Voltage			Current				Reflected Ripple	Input Overvoltage (1000ms)	Efficiency	Capacitive Load
	Input		Output	Input		Output					
	Nom. (VDC)	Range (VDC)	(VDC)	@ No Load (mA)	@ Max Load (mA)	Min (mA)	Max (mA)				
DPW2H5S3R3	5	4.5 - 9	3.3	40	471	125	500	100	11	70	2200 µF
DPW2H5S5	5	4.5 - 9	5	40	548	100	400	100	11	73	1000 µF
DPW2H5S12	5	4.5 - 9	12	40	534	42	167	100	11	75	170 µF
DPW2H5S15	5	4.5 - 9	15	40	582	33	134	100	11	73	110 µF
DPW2H5D5	5	4.5 - 9	±5	40	667	±50	±200	100	11	64	470 µF
DPW2H5D12	5	4.5 - 9	±12	40	615	±21	±83	100	11	69	100 µF
DPW2H5D15	5	4.5 - 9	±15	40	598	±17	±67	100	11	71	47 µF
DPW2H12S3R3	12	9-18	3.3	20	184	125	500	25	25	73	2200 µF
DPW2H12S5	12	9-18	5	20	217	100	400	25	25	77	1000 µF
DPW2H12S12	12	9-18	12	20	209	42	167	25	25	80	170 µF
DPW2H12S15	12	9-18	15	20	220	33	134	25	25	80	110 µF
DPW2H12D5	12	9-18	±5	20	242	±50	±200	25	25	73	470 µF
DPW2H12D12	12	9-18	±12	20	224	±21	±83	25	25	78	100 µF
DPW2H12D15	12	9-18	±15	20	226	±17	±67	25	25	78	47 µF
DPW2H24S3R3	24	18-36	3.3	10	96	125	500	15	50	72	2200 µF
DPW2H24S5	24	18-36	5	10	109	100	400	15	50	77	1000 µF
DPW2H24S12	24	18-36	12	10	109	42	167	15	50	80	170 µF
DPW2H24S15	24	18-36	15	10	108	33	134	15	50	81	110 µF
DPW2H24D5	24	18-36	±5	10	119	±50	±200	15	50	74	470 µF
DPW2H24D12	24	18-36	±12	10	112	±21	±83	15	50	78	100 µF
DPW2H24D15	24	18-36	±15	10	110	±17	±67	15	50	80	47 µF
DPW2H48S3R3	48	36-75	3.3	8	49	125	500	10	100	71	2200 µF
DPW2H48S5	48	36-75	5	8	57	100	400	10	100	73	1000 µF
DPW2H48S12	48	36-75	12	8	53	42	167	10	100	79	170 µF
DPW2H48S15	48	36-75	15	8	55	33	134	10	100	79	110 µF
DPW2H48D5	48	36-75	±5	8	62	±50	±200	10	100	71	470 µF
DPW2H48D12	48	36-75	±12	8	57	±21	±83	10	100	77	100 µF
DPW2H48D15	48	36-75	±15	8	57	±17	±67	10	100	77	47 µF



Dimensions are inches (mm) unless noted

Tolerance: Inches      Millimeters

X.XX ±0.01      X.X ±0.25

X.XXX ±0.005      X.XX ±0.13

Pin      ±0.002      ±0.05

Pin Connections (NC) Not Connected		
Pin	Single	Dual
1	-Vin	-Vin
7	NC	NC
8	NC	Common
9	+Vout	+Vout
10	-Vout	-Vout
16	+Vin	+Vin

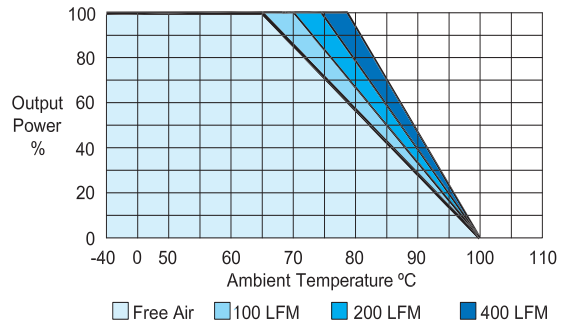


See Model Selection Table for Model Specific Parameters

Input Parameters		Min	Typ	Max	Units
Reverse Polarity Input Current				1	A
Short Circuit Input Power				1500	mW
Start Voltage	5 Vin	3.5	4	4.5	VDC
	12 Vin	4.5	7	9	
	24 Vin	8	12	18	
	48 Vin	16	24	36	
Under Voltage Shutdown	5 Vin		3.5	4	VDC
	12 Vin		6.5	8.5	
	24 Vin		11	17	
	48 Vin		22	34	
Switching Frequency			300		kHz
Input Filter		Pi Filter			
Output Parameters		Min	Typ	Max	Units
Output Voltage Accuracy			±1.0	±2.0	%
Output Voltage Balance Dual Output, Balanced Loads			±1.0	±2.0	%
Load Regulation Io = 25% to 100%			±0.5	±0.75	%
Line Regulation Vin=Min. to Max.			±0.3	±0.5	%
Ripple & Noise (20MHz)			30	50	mV P-P
Ripple & Noise (20 MHz) Over Line, Load & Temp				75	mV P-P
Ripple & Noise (20 MHz)				15	mV RMS
Over Power Protection		120			%
Transient Recovery Time 25% Load Step Change			100	300	µs
Transient Response Deviation, 25% Load Step Change			±3	±5	%
Temperature Coefficient			±0.01	±0.02	% / °C
Short Circuit Protection		Continuous			
General Specifications		Min	Typ	Max	Units
Isolation Voltage, seconds		60	1500		VDC
Isolation Resistance 500VDC			1000		Mohms
Isolation Capacitance, 100kHz, 1V			250	420	pF
Operating Temperature (Ambient)		-40		+65	°C
Storage Temperature		-40		+125	°C
Humidity				95	%
MTBF MIL-HDBK-217F @25°C, Ground Benign		1000			K Hours
Cooling		Free-Air Convection			
Case Size		0.94 x 0.54 x 0.30 inches 23.8 x 13.7 x 7.62 mm			
Case Material		Non Conductive Black Plastic (UL94V-0)			
Weight		5.1g			
Agency Approval		CSA60950 Approved			

Notes:

- Specifications typical at Ta=+25°C, resistive load, nominal input voltage, full rated output current unless otherwise noted.
- Transient recovery time is measured to within 1% error band for a step change in output load 75% to 100%.
- ConTech power converters require a minimum output loading to maintain specified regulation. Operation under no-load conditions will not damage these modules; however, they may not meet all specifications listed.
- The series has a limitation of a maximum connected capacitance at the output. The power module may be operated in current limiting mode during start-up, affecting the ramp-up and the startup time.
- When measuring peak-to-peak output noise, use a Cout 0.47µF ceramic capacitor. Scope measurement should be made by using a BNC socket, measurement bandwidth is 0-20MHz. Position the load between 2" and 2.5" from the converter.
- Water washability - ConTech DC/DC converters are designed to withstand most solder/wash processes. Careful attention should be used when assessing the applicability in your specific manufacturing process. Converters are not hermetically sealed.
- See ConTech website for Definition of Terms, Application Notes, and Test Setups and Parameters. [www.ConTech-us.com/appnotes.html](http://www.ConTech-us.com/appnotes.html).
- Specifications subject to change without notice.
- See ConTech website [www.ConTech-us.com/pdf/rohs.pdf](http://www.ConTech-us.com/pdf/rohs.pdf) for RoHS Statement.



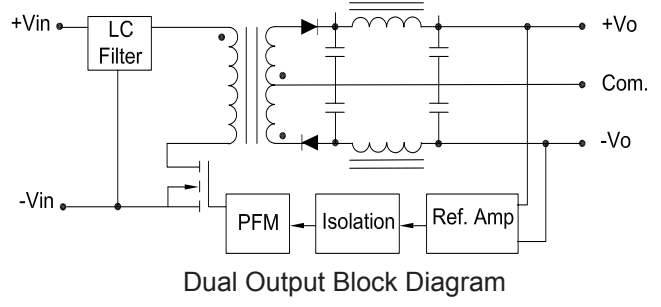
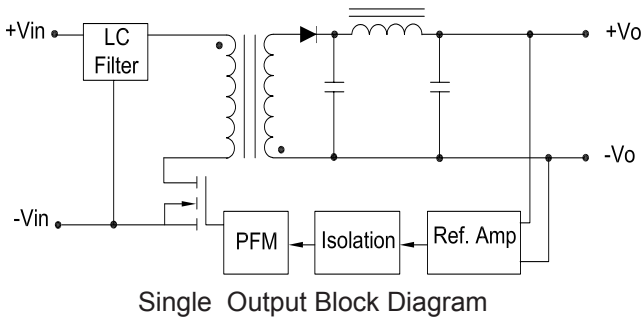
Derating Curve

To avoid exceeding the maximum temperature rating of the components inside the power module, the case temperature must be kept below 90°C.

Input Fuse Selection Table	
5V Input	1000 mA Slow-Blow
12V Input	500 mA Slow-Blow
24V Input	250 mA Slow-Blow
48V Input	120 mA Slow-Blow

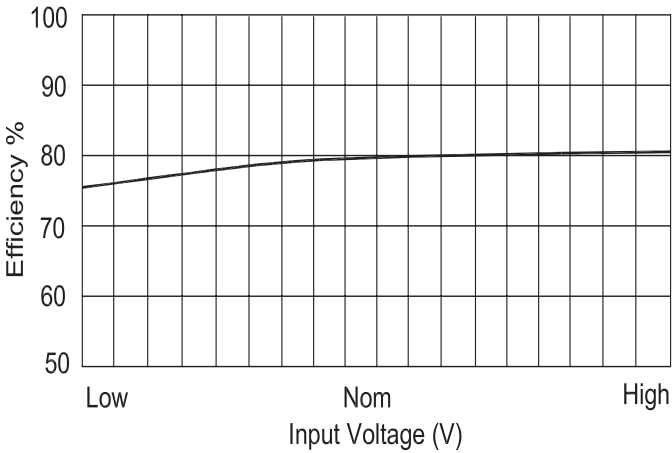
External fusing should be used for system protection due to a catastrophic failure. See ConTech website for Fusing Application Notes to determine the correct fuse.

# Block Diagrams

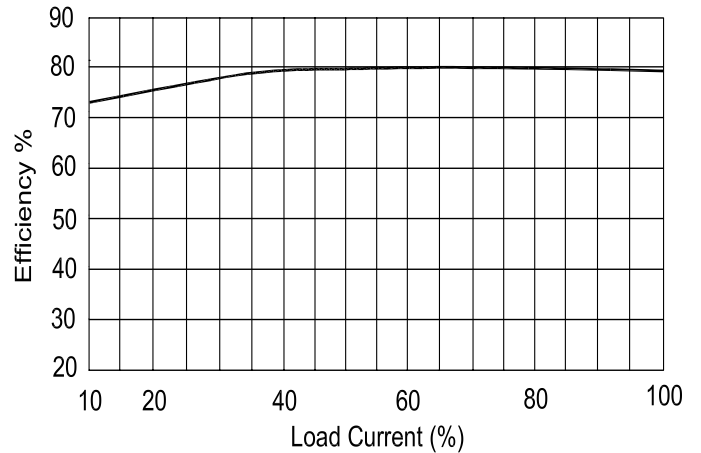


# Efficiency Curves

## Single Output

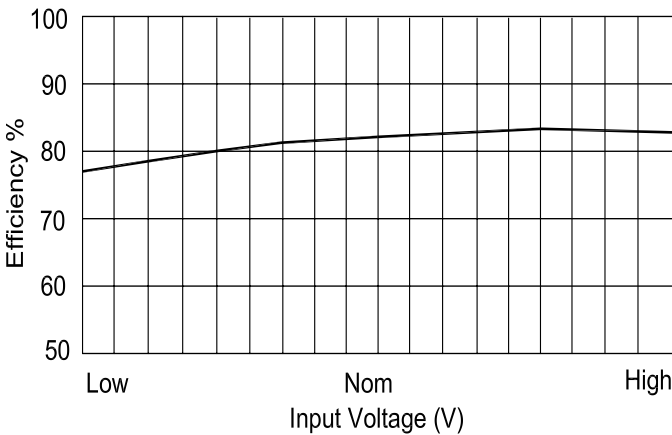


**Efficiency vs Input Voltage**

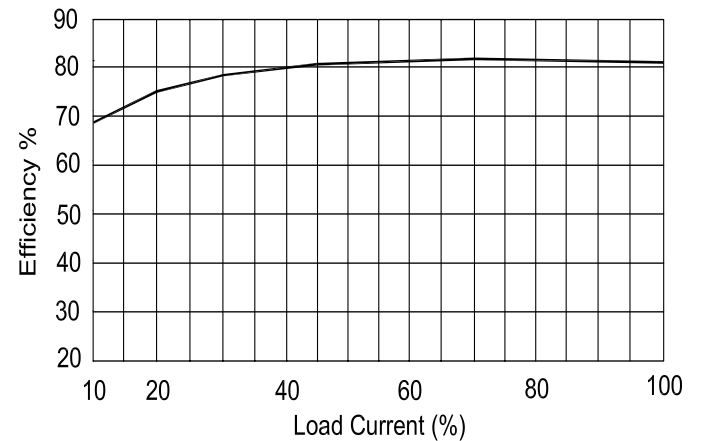


**Efficiency vs Output Load**

## Dual Output



**Efficiency vs Input Voltage**



**Efficiency vs Output Load**

