

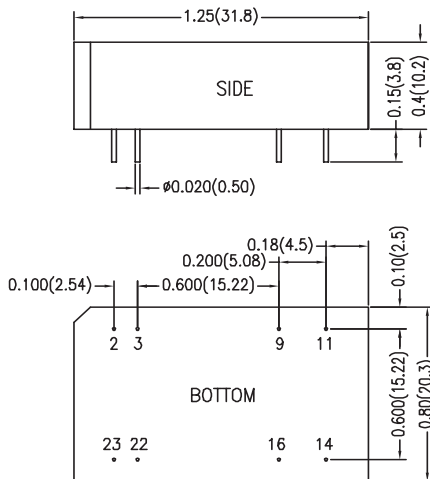
- Efficiency up to 84%
- 1500VDC Isolation
- MTBF > 1,000,000 Hours
- 2:1 Input Range
- UL60950 Approved
- RoHS Compliant



2-3 Watt DPA Single and Dual Series



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)				
DPA2H5S3R3	5	4.5-9	3.3	40	566	60	600	100	11	70	4000 µF
DPA2R5H5S5	5	4.5-9	5	40	685	50	500	100	11	73	4000 µF
DPA3H5S12	5	4.5-9	12	40	779	25	250	100	11	77	4000 µF
DPA3H5S15	5	4.5-9	15	40	779	20	200	100	11	77	4000 µF
DPA2R5H5D5	5	4.5-9	±5	40	694	±25	±250	100	11	72	1000 µF
DPA3H5D12	5	4.5-9	±12	40	800	±12.5	±125	100	11	75	1000 µF
DPA3H5D15	5	4.5-9	±15	40	800	±10	±100	100	11	75	1000 µF
DPA2H12S3R3	12	9-18	3.3	20	223	60	600	30	25	74	4000 µF
DPA2R5H12S5	12	9-18	5	20	267	50	500	30	25	78	4000 µF
DPA3H12S12	12	9-18	12	20	305	25	250	30	25	82	4000 µF
DPA3H12S15	12	9-18	15	20	305	20	200	30	25	82	4000 µF
DPA2R5H12D5	12	9-18	±5	20	271	±25	±250	30	25	77	1000 µF
DPA3H12D12	12	9-18	±12	20	313	±12.5	±125	30	25	80	1000 µF
DPA3H12D15	12	9-18	±15	20	313	±10	±100	30	25	80	1000 µF
DPA2H24S3R3	24	18-36	3.3	5	109	60	600	15	50	76	4000 µF
DPA2R5H24S5	24	18-36	5	5	132	50	500	15	50	79	4000 µF
DPA3H24S12	24	18-36	12	5	149	25	250	15	50	84	4000 µF
DPA3H24S15	24	18-36	15	5	149	20	200	15	50	84	4000 µF
DPA2R5H24D5	24	18-36	±5	5	132	±25	±250	15	50	79	1000 µF
DPA3H24D12	24	18-36	±12	5	152	±12.5	±125	15	50	82	1000 µF
DPA3H24D15	24	18-36	±15	5	152	±10	±100	15	50	82	1000 µF
DPA2H48S3R3	48	36-72	3.3	3	55	60	600	10	100	76	4000 µF
DPA2R5H48S5	48	36-72	5	3	66	50	500	10	100	79	4000 µF
DPA3H48S12	48	36-72	12	3	75	25	250	10	100	84	4000 µF
DPA3H48S15	48	36-72	15	3	75	20	200	10	100	84	4000 µF
DPA2R5H48D5	48	36-72	±5	3	65	±25	±250	10	100	80	1000 µF
DPA3H48D12	48	36-72	±12	3	75	±12.5	±125	10	100	84	1000 µF
DPA3H48D15	48	36-72	±15	3	75	±10	±100	10	100	84	1000 µF



Pin Connections (NC) Not Connected		
Pin	Single	Dual
2	-Vin	-Vin
3	-Vin	-Vin
9	No Pin	Common
11	NC	-Vout
14	+Vout	+Vout
16	-Vout	Common
22	+Vin	+Vin
23	+Vin	+Vin

Dimensions are inches (mm) unless noted

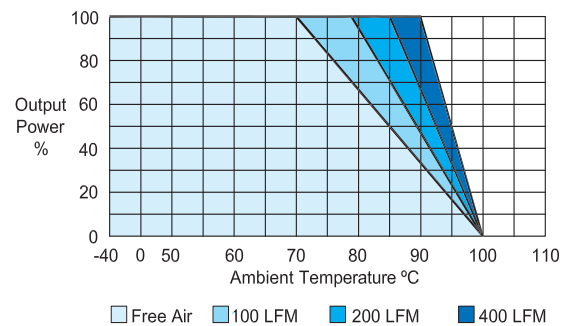
Tolerance: Inches	Millimeters
X.XX ±0.01	X.X ±0.25
X.XXX ±0.005	X.XX ±0.13
Pin ±0.002	±0.05

See Model Selection Table for Model Specific Parameters

Input Parameters	Min	Typ	Max	Units	
Reverse Polarity Input Current			1	A	
Short Circuit Input Power		1000	2000	mW	
Start Voltage	5 Vin 12 Vin 24 Vin 48 Vin	3.5 4.5 8 16	4 7 12 24	4.5 9 18 36	VDC
Under Voltage Shutdown	5 Vin 12 Vin 24 Vin 48 Vin		3.5 6.5 11 22	4 8.5 17 34	VDC
Switching Frequency		300		kHz	
Input Filter	Pi Filter				
Output Parameters	Min	Typ	Max	Units	
Output Voltage Accuracy		±0.5	±1.0	%	
Output Voltage Balance Dual Output, Balanced Loads		±0.5	±2.0	%	
Load Regulation Io = 10% to 100%		±0.2	±0.5	%	
Line Regulation Vin=Min. to Max.		±0.2	±0.5	%	
Ripple & Noise (20MHz)		45	60	mV P-P	
Ripple & Noise (20 MHz) Over Line, Load & Temp			100	mV P-P	
Ripple & Noise (20 MHz)			15	mV RMS	
Over Power Protection	120			%	
Transient Recovery Time 50% Load Step Change		300	500	µs	
Transient Response Deviation, 50% Load Step Change		±3	±5	%	
Temperature Coefficient		±0.01	±0.02	% / °C	
Short Circuit Protection	Continuous				
General Specifications	Min	Typ	Max	Units	
Isolation Voltage, 60 seconds	1500			VDC	
Isolation Resistance 500VDC	1000			Mohms	
Isolation Capacitance, 100kHz, 1V		65	100	pF	
Operating Temperature (Ambient)	-25		+71	°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	1.25 x 0.80 x 0.40 inches 31.8 x 20.3 x 10.2 mm				
Case Material	Non Conductive Black Plastic (UL94V-0)				
Weight	12.4g				
Agency Approval	UL60950 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 50% 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.
- Specifications subject to change without notice.
- See ConTech website www.contech-us.com/pdf/rohs.pdf for RoHS Statement.



Derating Curve

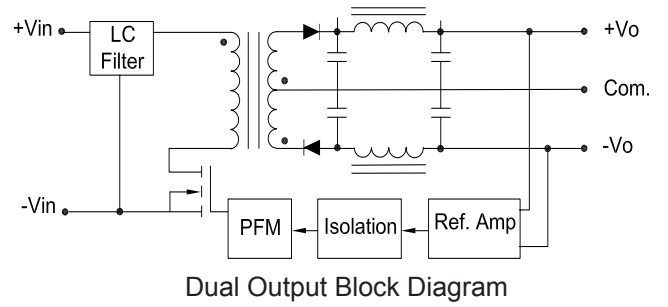
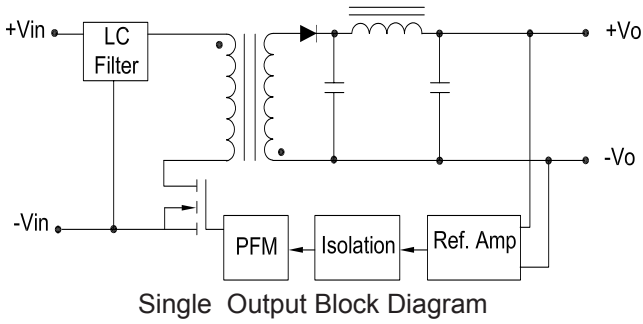
To avoid exceeding the maximum temperature rating of the components inside the power module, the case temperature must be kept below 90°C.

Input Fuse Selection Table	
5V Input	1500 mA Slow-Blow
12V Input	700 mA Slow-Blow
24V Input	350 mA Slow-Blow
48V Input	135 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.

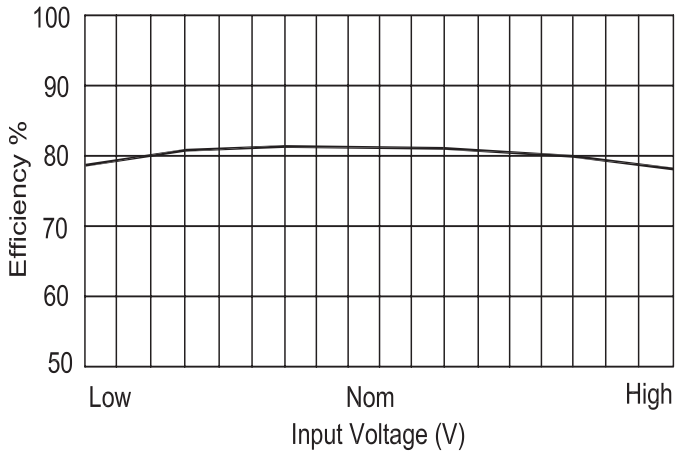


Block Diagrams

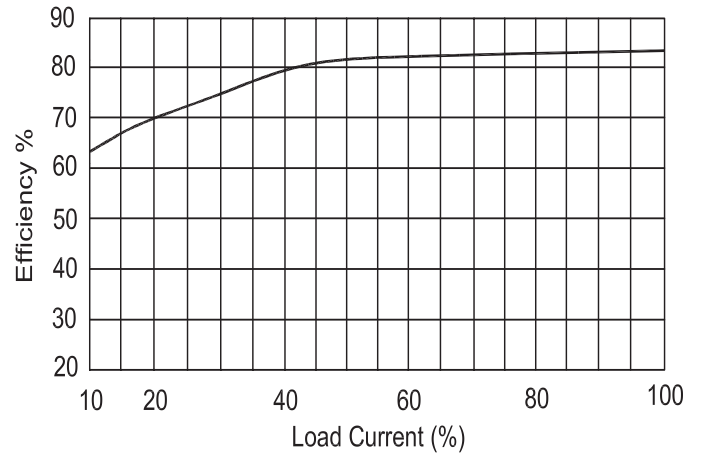


Efficiency Curves

Single Output

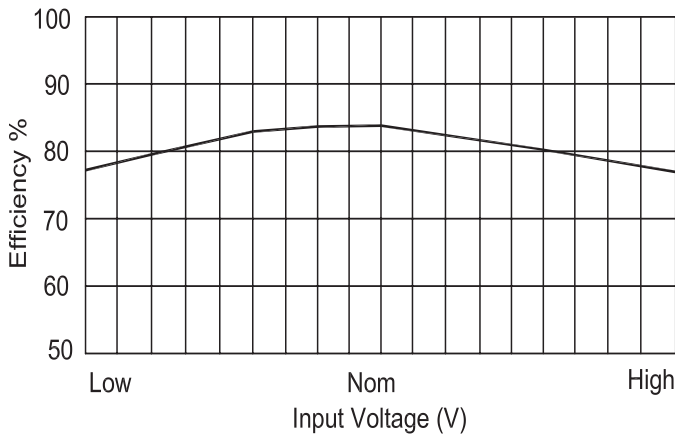


Efficiency vs Input Voltage

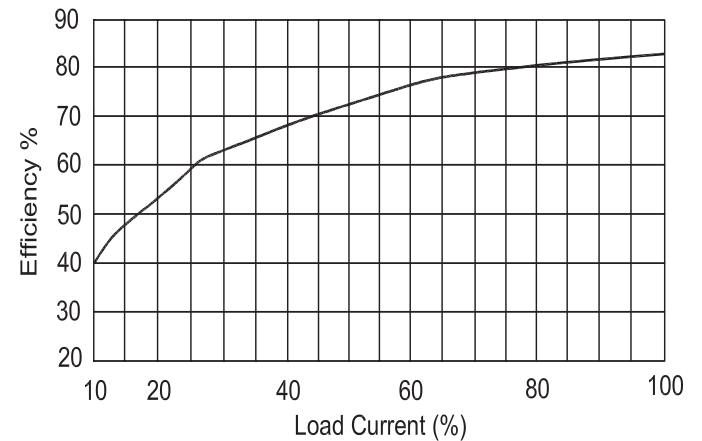


Efficiency vs Output Load

Dual Output



Efficiency vs Input Voltage



Efficiency vs Output Load