

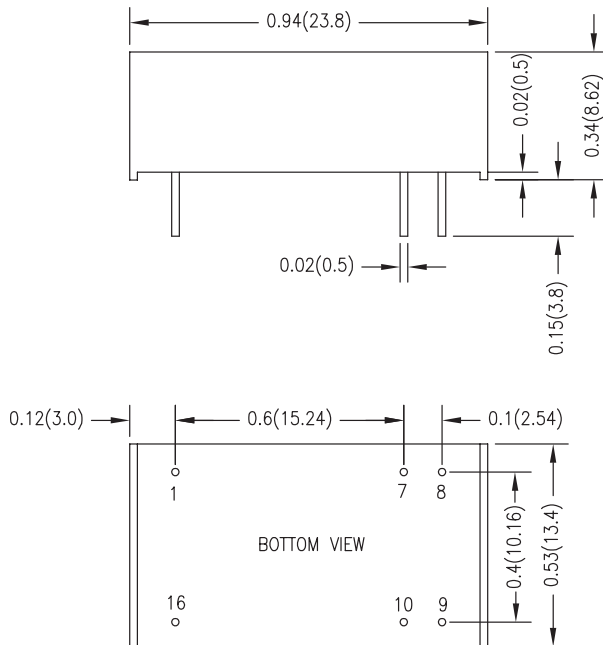
- Efficiency up to 75%
- 4000VAC Isolation
- MTBF > 2,000,000 Hours
- Low Leakage Current
- UL60950 and UL60601 Approved
- RoHS Compliant



2 Watt DPN Single and Dual Series



Model Number	Voltage		Current				Load Regulation % (Max)	Input Overvoltage (1000ms) Max (VDC)	Efficiency @ Max Load (%, Typ)	Capacitive Load Max (Dual each output)	
	Input		Input		Output						
	Nom. (VDC)	Range (VDC)	(VDC)	@ No Load (mA)	@ Max Load (mA)	Min (mA)					Max (mA)
DPN2L5S5	5	4.5 - 5.5	5	60	606	8	400	12	9	66	330 μ F
DPN2L5S12	5	4.5 - 5.5	12	60	600	3	165	10	9	66	330 μ F
DPN2L5S15	5	4.5 - 5.5	15	60	605	2.5	133	10	9	66	330 μ F
DPN2L5D12	5	4.5 - 5.5	± 12	60	553	± 1.5	± 83	10	9	72	100 μ F
DPN2L5D15	5	4.5 - 5.5	± 15	60	542	± 1	± 66	10	9	73	100 μ F
DPN2L12S5	12	10.8 - 13.2	5	30	253	8	400	12	18	66	330 μ F
DPN2L12S12	12	10.8 - 13.2	12	30	250	3	165	10	18	66	330 μ F
DPN2L12S15	12	10.8 - 13.2	15	30	252	2.5	133	10	18	66	330 μ F
DPN2L12D12	12	10.8 - 13.2	± 12	30	224	± 1.5	± 83	10	18	74	100 μ F
DPN2L12D15	12	10.8 - 13.2	± 15	30	220	± 1	± 66	10	18	75	100 μ F
DPN2L24S5	24	21.6 - 26.4	5	15	126	8	400	12	30	66	330 μ F
DPN2L24S12	24	21.6 - 26.4	12	15	125	3	165	10	30	66	330 μ F
DPN2L24S15	24	21.6 - 26.4	15	15	126	2.5	133	10	30	66	330 μ F
DPN2L24D12	24	21.6 - 26.4	± 12	15	112	± 1.5	± 83	10	30	74	100 μ F
DPN2L24D15	24	21.6 - 26.4	± 15	15	110	± 1	± 66	10	30	75	100 μ F



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

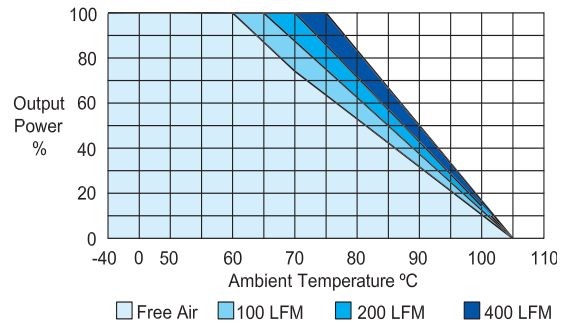
Pin Connections (NC) Not Connected		
Pin	Single	Dual
1	-Vin	-Vin
7	NC	NC
8	NC	Common
9	+Vout	+Vout
10	-Vout	-Vout
16	+Vin	+Vin

See Model Selection Table for Model Specific Parameters

Input Parameters	Min	Typ	Max	Units
Reverse Polarity Input Current			0.3	A
Switching Frequency	50	80	100	kHz
Input Filter	Internal Capacitor			
Output Parameters	Min	Typ	Max	Units
Output Voltage Accuracy		±2.0	±4.0	%
Output Voltage Balance Dual Output, Balanced Loads		±0.1	±1.0	%
Load Regulation I _o = 20% to 100%	See Model Selection Guide			%
Line Regulation for V _{in} Change of 10%		±1.2	±1.5	%
Ripple & Noise (20MHz)		100	150	mV P-P
Ripple & Noise (20 MHz) Over Line, Load & Temp			200	mV P-P
Ripple & Noise (20 MHz)			15	mV RMS
Temperature Coefficient		±0.01	±0.02	% / °C
Short Circuit Protection	0.5 Second Max			
General Specifications	Min	Typ	Max	Units
Isolation Voltage, 60 seconds	4000			VAC
Isolation Resistance 500VDC	10			Gohms
Isolation Capacitance, 100kHz, 1V		15	20	pF
Leakage Current 240 VAC, 60 Hz			2	µA
Operating Temperature (Ambient)	-25		+60	°C
Storage Temperature	-40		+125	°C
Humidity			95	%
MTBF MIL-HDBK-217F @25°C, Ground Benign	2000			K Hours
Cooling	Free-Air Convection			
Case Size	0.94 x 0.53 x 0.34 inches 23.8 x 13.4 x 8.62 mm			
Case Material	Non Conductive Black Plastic (UL94V-0)			
Weight	5.1g			
Agency Approval	UL 60950 and UL 60601 Approved			

Notes:

- Specifications typical at Ta=+25°C, resistive load, nominal input voltage, full rated output current unless otherwise noted.
- 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

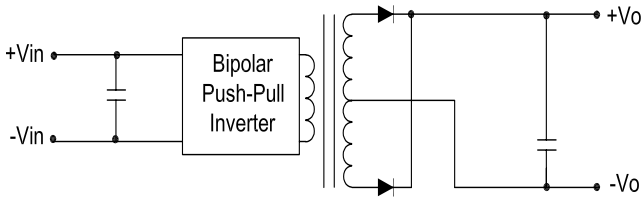
To avoid exceeding the maximum temperature rating of the components inside the power module, the case temperature must be kept below 90°C.

Input Fuse Selection Table	
5V Input	1000 mA Slow-Blow
12V Input	500 mA Slow-Blow
24V Input	200 mA Slow-Blow

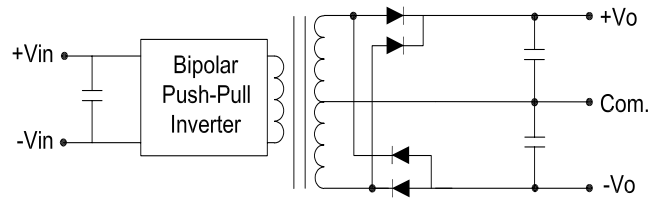
External fusing should be used for system protection due to a catastrophic failure. See ConTech website for Fusing Application Notes to determine the correct fuse.



Block Diagrams



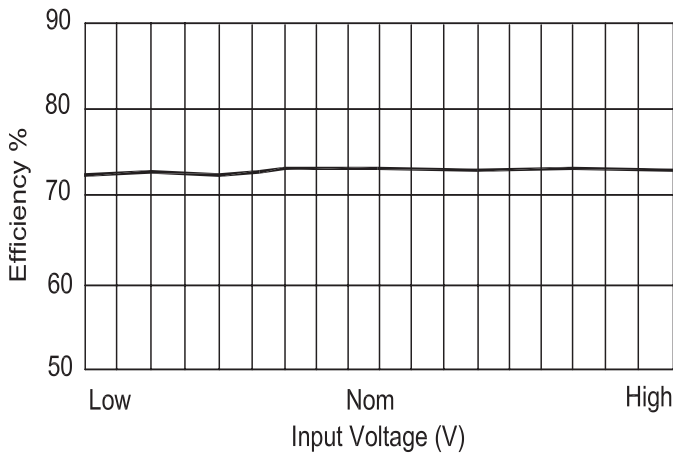
Single Output Block Diagram



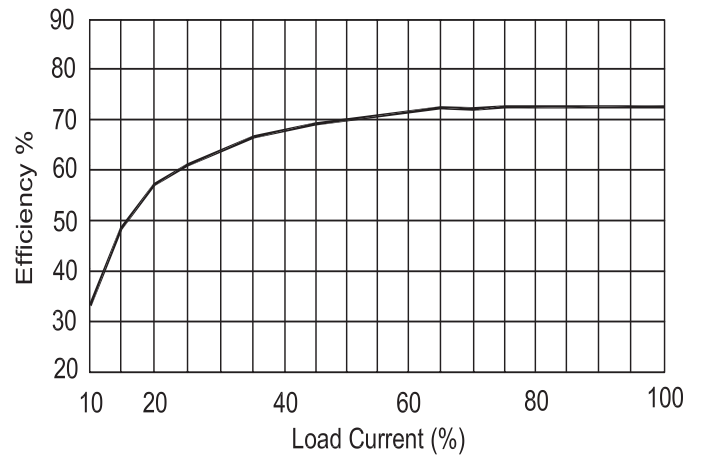
Dual Output Block Diagram

Efficiency Curves

Single Output

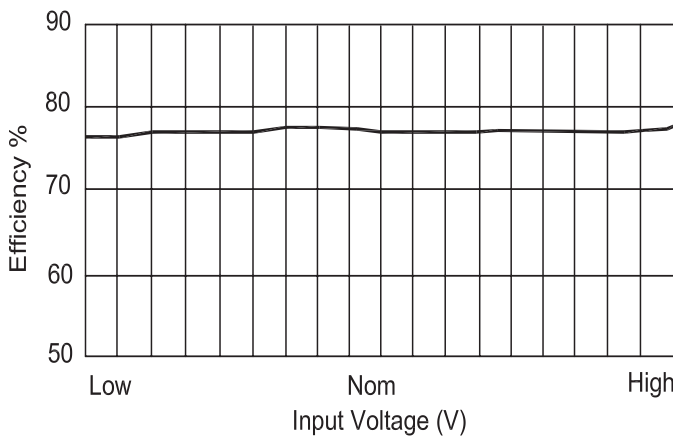


Efficiency vs Input Voltage

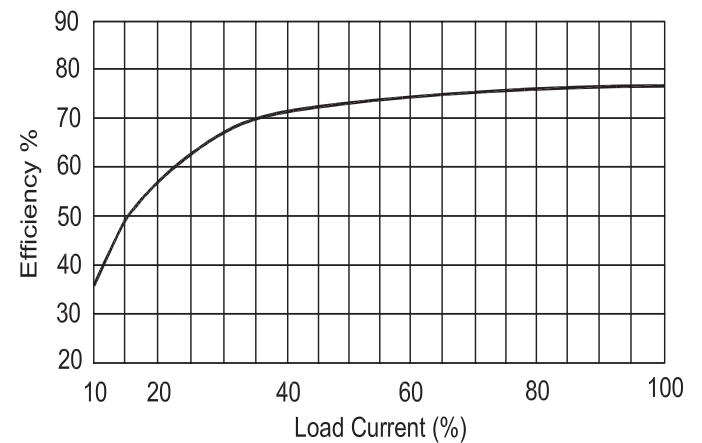


Efficiency vs Output Load

Dual Output



Efficiency vs Input Voltage



Efficiency vs Output Load

