CONTECH
Division of Calex Mfg.

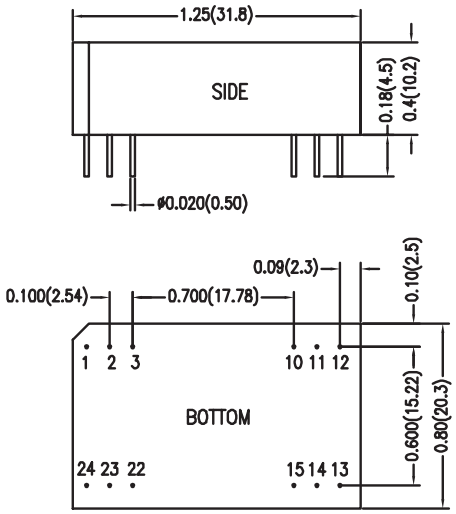
vitec POWER GmbH

3 Watt DPS
Single and Dual Series

RoHS Compliant

- Efficiency up to 81%
- 1500VDC Isolation
- MTBF > 1,000,000 Hours\
- 2:1 Input Range
- Short Circuit Protection
- UL60950 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)	Typ (mA)	Max (VDC)	@ Max Load (%, Typ)	Max (Dual each output)
DPS3H5S5	5	4.5-9	5	40	857	60	600	100	11	70	2000 µF
DPS3H5S12	5	4.5-9	12	40	811	25	250	100	11	74	2000 µF
DPS3H5S15	5	4.5-9	15	40	811	20	200	100	11	74	2000 µF
DPS3H5D12	5	4.5-9	±12	40	811	±12.5	±125	100	11	74	1000 µF
DPS3H5D15	5	4.5-9	±15	40	811	±10	±100	100	11	74	1000 µF
DPS3H12S5	12	9-18	5	20	329	60	600	30	25	76	2000 µF
DPS3H12S12	12	9-18	12	20	313	25	250	30	25	80	2000 µF
DPS3H12S15	12	9-18	15	20	313	20	200	30	25	80	2000 µF
DPS3H12D12	12	9-18	±12	20	313	±12.5	±125	30	25	80	1000 µF
DPS3H12D15	12	9-18	±15	20	313	±10	±100	30	25	80	1000 µF
DPS3H24S5	24	18-36	5	5	162	60	600	15	50	77	2000 µF
DPS3H24S12	24	18-36	12	5	154	25	250	15	50	81	2000 µF
DPS3H24S15	24	18-36	15	5	154	20	200	15	50	81	2000 µF
DPS3H24D12	24	18-36	±12	5	154	±12.5	±125	15	50	81	1000 µF
DPS3H24D15	24	18-36	±15	5	154	±10	±100	15	50	81	1000 µF
DPS3H48S5	48	36-75	5	3	81	60	600	10	100	77	2000 µF
DPS3H48S12	48	36-75	12	3	77	25	250	10	100	81	2000 µF
DPS3H48S15	48	36-75	15	3	77	20	200	10	100	81	2000 µF
DPS3H48D12	48	36-75	±12	3	77	±12.5	±125	10	100	81	1000 µF
DPS3H48D15	48	36-75	±15	3	77	±10	±100	10	100	81	1000 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
2	NC	-Vout
3	NC	Common
10	-Vout	Common
11	+Vout	+Vout
12	-Vin	-Vin
13	-Vin	-Vin
14	+Vout	+Vout
15	-Vout	Common
22	NC	Common
23	NC	-Vout
24	+Vin	+Vin

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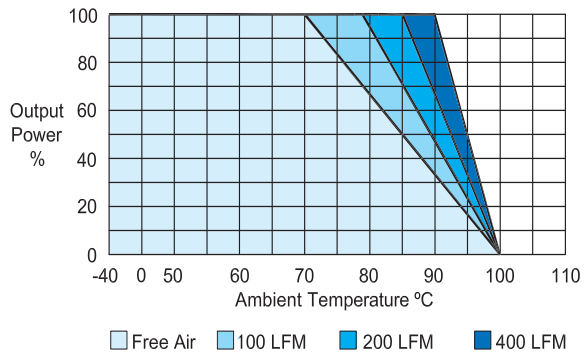
See Model Selection Table for Model Specific Parameters

Input Parameters		Min	Typ	Max	Units
Reverse Polarity Input Current				1	A
Short Circuit Input Power			1000	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			
Conducted EMI		Meets EN55022, Class A and FCC Part 15, Class A			
Output Parameters		**Min**	**Typ**	**Max**	**Units**
Output Voltage Accuracy			±0.5	±2.0	%
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 25% Load Step Change			300	500	µs
Transient Response Deviation, 25% Load Step Change			±3	±5	%
Temperature Coefficient			±0.01	±0.02	% / ºC
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				150	pF
Operating Temperature (Ambient)		-40		+85	ºC
Operating Temperatue (Case)		-40		+90	ºC
Storage Temperature		-40		+125	ºC
Humidity				95	%
MTBF MIL-HDBK-217F @25ºC, 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:

1. Specifications typical at Ta=+25ºC, resistive load, nominal input voltage, full rated output current unless otherwise noted.
2. Transient recovery time is measured to within 1% error band for a step change in output load 75% to 100%.
3. 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.
4. 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.
5. 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.
6. 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.
7. See ConTech website for Definition of Terms, Application Notes, and Test Setups and Parameters. www.ConTech-us.com/appnotes.html.
8. Specifications subject to change without notice.
9. 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 90ºC.

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.

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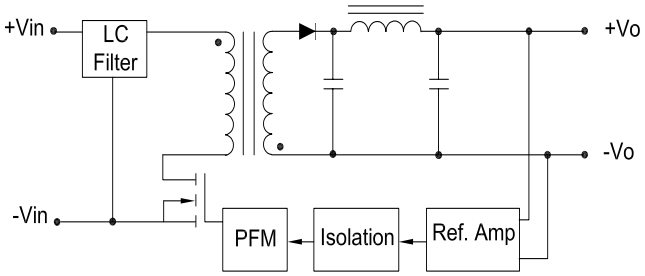
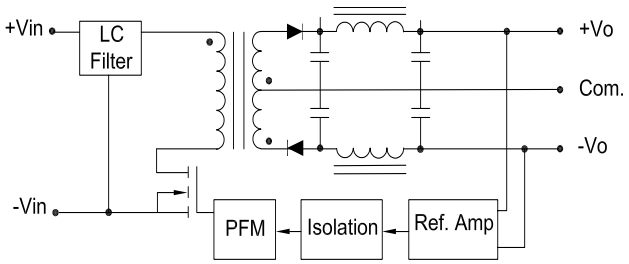
Block Diagrams



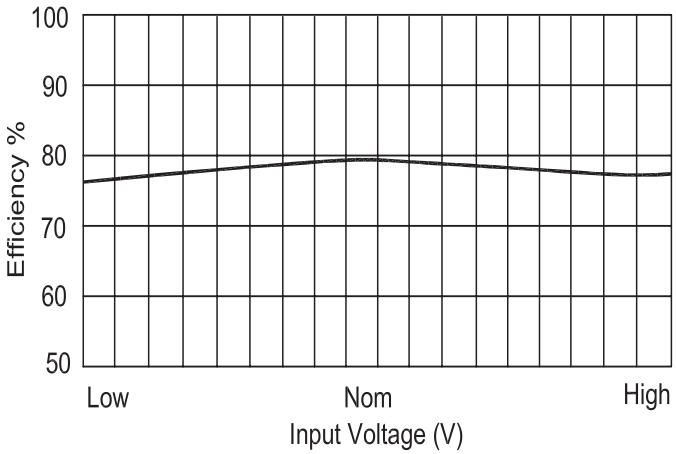
Single Output Block Diagram



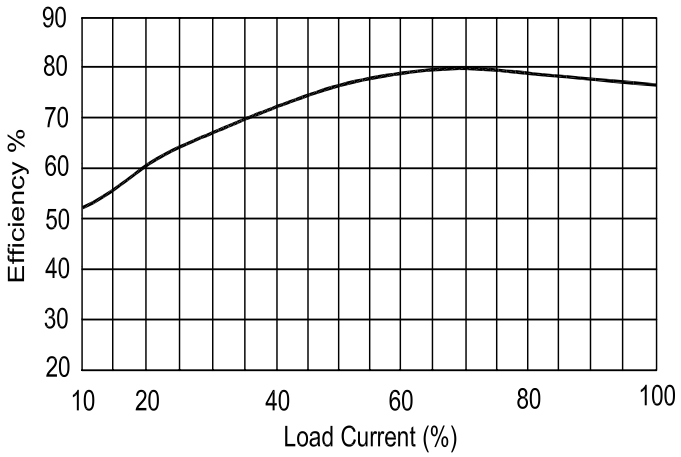
Dual Output Block Diagram

Efficiency Curves

Single Output

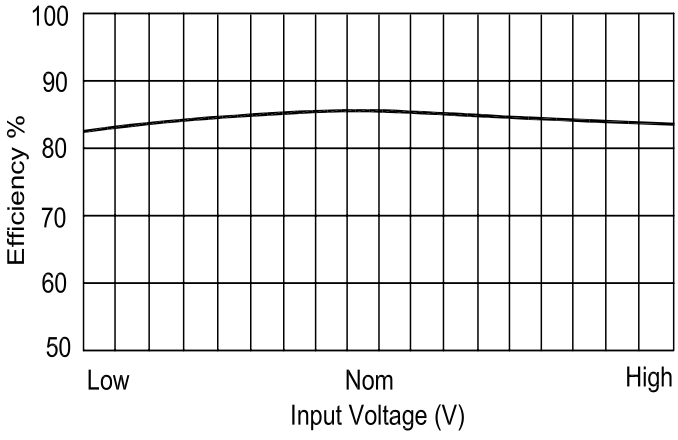


Efficiency vs Input Voltage

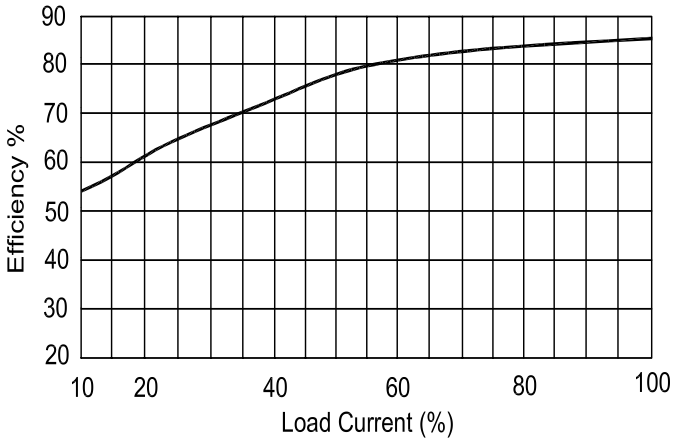


Efficiency vs Output Load

Dual Output



Efficiency vs Input Voltage



Efficiency vs Output Load

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