



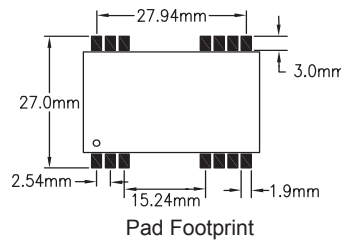
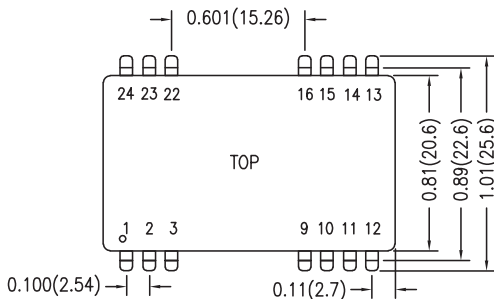
- Efficiency up to 83%
- 1500VDC Isolation
- MTBF > 1,000,000 Hours
- 4:1 Input
- Short Circuit Protection
- Remote On/Off
- RoHS Compliant



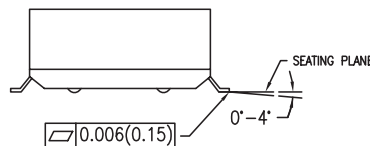
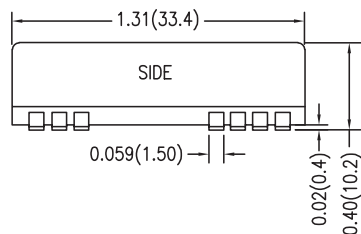
## 5 Watt SMW Single and Dual Series



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)				
SMW5H24S3R3	24	9-36	3.3	20	217	120	1200	15	50	76	2000 $\mu$ F
SMW5H24S5	24	9-36	5	20	260	100	1000	15	50	80	2000 $\mu$ F
SMW5H24S12	24	9-36	12	20	251	41.7	417	15	50	83	470 $\mu$ F
SMW5H24S15	24	9-36	15	20	251	33.3	333	15	50	83	330 $\mu$ F
SMW5H24D5	24	9-36	$\pm$ 5	20	260	$\pm$ 50	$\pm$ 500	15	50	80	680 $\mu$ F
SMW5H24D12	24	9-36	$\pm$ 12	20	251	$\pm$ 20.8	$\pm$ 208	15	50	83	330 $\mu$ F
SMW5H24D15	24	9-36	$\pm$ 15	20	252	$\pm$ 16.7	$\pm$ 167	15	50	83	220 $\mu$ F
SMW5H48S3R3	48	18-75	3.3	10	109	120	1200	10	100	76	2000 $\mu$ F
SMW5H48S5	48	18-75	5	10	130	100	1000	10	100	80	2000 $\mu$ F
SMW5H48S12	48	18-75	12	10	126	41.7	417	10	100	83	470 $\mu$ F
SMW5H48S15	48	18-75	15	10	125	33.3	333	10	100	83	330 $\mu$ F
SMW5H48D5	48	18-75	$\pm$ 5	10	130	$\pm$ 50	$\pm$ 500	10	100	80	680 $\mu$ F
SMW5H48D12	48	18-75	$\pm$ 12	10	125	$\pm$ 20.8	$\pm$ 208	10	100	83	330 $\mu$ F
SMW5H48D15	48	18-75	$\pm$ 15	10	126	$\pm$ 16.7	$\pm$ 167	10	100	83	220 $\mu$ F



Pin Connections (NC) Not Connected		
Pin	Single	Dual
1	Remote On/Off	Remote On/Off
2	-Vin	-Vin
3	-Vin	-Vin
9	NC	Common
10	NC	NC
11	NC	-Vout
12	NC	NC
13	NC	NC
14	+Vout	+Vout
15	NC	NC
16	-Vout	Common
22	+Vin	+Vin
23	+Vin	+Vin
24	NC	NC



Dimensions are inches (mm) unless noted

Tolerance:	Inches	Millimeters
	X.XX $\pm$ 0.01	X.X $\pm$ 0.25
	X.XXX $\pm$ 0.005	X.XX $\pm$ 0.13
Pin	$\pm$ 0.002	$\pm$ 0.05

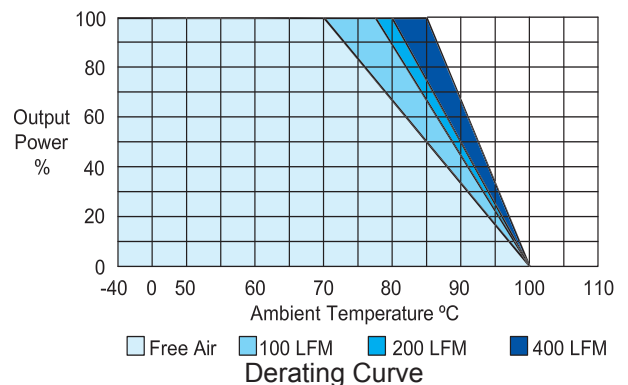
See Model Selection Table for Model Specific Parameters

Input Parameters	Min	Typ	Max	Units	
Reverse Polarity Input Current			1	A	
Short Circuit Input Power		1000	3000	mW	
Start Voltage	24 Vin 48 Vin	7 14	8 16	9 18	VDC
Under Voltage Shutdown	24 Vin 48 Vin	6 13	7 15	8 17	VDC
Switching Frequency		340		kHz	
Input Filter	Pi Filter				
Output Parameters	Min	Typ	Max	Units	
Output Voltage Accuracy		±0.5	±2.0	%	
Output Voltage Balance Dual Output, Balanced Loads		±0.5	±3.0	%	
Load Regulation Io = 10% to 100%		±0.3	±1.0	%	
Line Regulation Vin=Min. to Max.		±0.2	±1.0	%	
Ripple & Noise (20MHz)		50	85	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	115			%	
Transient Recovery Time 25% Load Step Change		250	500	µs	
Transient Response Deviation, 25% Load Step Change		±2	±6	%	
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		650	750	pF	
Operating Temperature (Ambient)	-40		+71	°C	
Storage Temperature	-40		+125	°C	
Humidity			95	%	
MTBF MIL-HDBK-217F @25°C, Ground Benign	1000			K Hours	
Leadfree Reflow Solder Process	IPC/JEDEC J-STD-020C peak temp. 245°C/10 sec.				
Moisture Sensitivity Level (MLS) Temperature	IPC/JEDEC J-STD-20 Level 2				
Cooling	Free-Air Convection				
Case Size	1.31 x 0.81 x 0.40 inches 33.4 x 20.6 x 10.2 mm				
Case Material	Non-Conductive Black Plastic (UL94V-0)				
Weight	14g				

Remote On/Off	Min	Typ	Max	Units
Supply On	2.5 to 5.5VDC or Open Circuit			VDC
Supply Off	-0.7		0.8	VDC
Device Standby Input Current			10	mA
Control Input Current (on) Vin=Min. to Max.			-600	µA
Control Input Current (off) Vin=Min. to Max.			-700	µA
Control Common	Referenced to Negative Logic			

Notes:

1. Specifications typical at Ta=+25°C, 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](http://www.ConTech-us.com/appnotes.html).
8. Specifications subject to change without notice.
9. See ConTech website [www.ConTech-us.com/pdf/rohs.pdf](http://www.ConTech-us.com/pdf/rohs.pdf) for RoHS Statement.



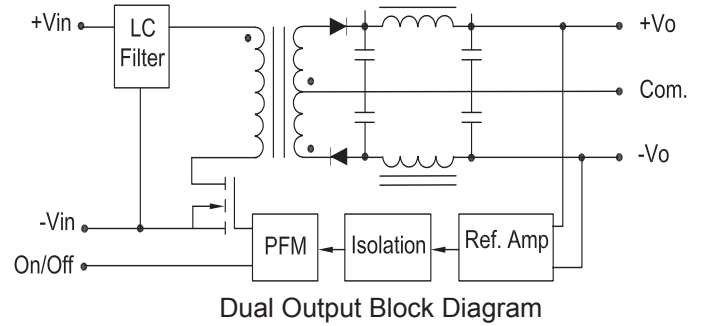
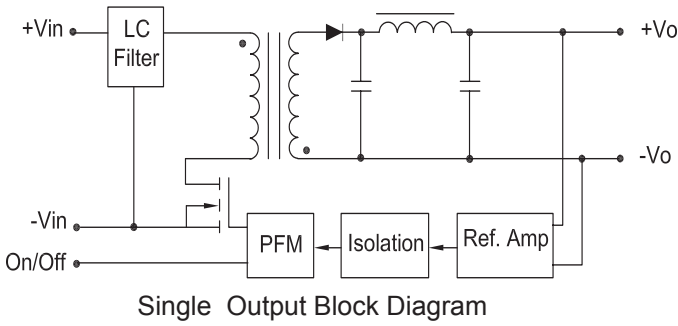
To avoid exceeding the maximum temperature rating of the components inside the power module, the case temperature must be kept below 90°C.

Input Fuse Selection Table	
24V Input	1500 mA Slow-Blow
48V Input	750 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.

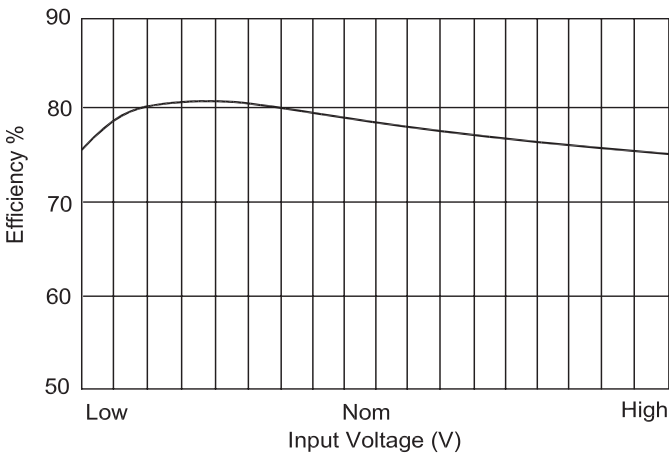


## Block Diagrams

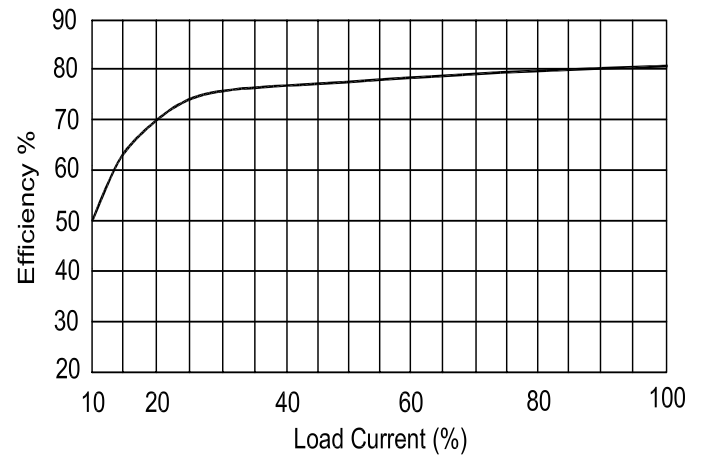


## Efficiency Curves

### Single Output

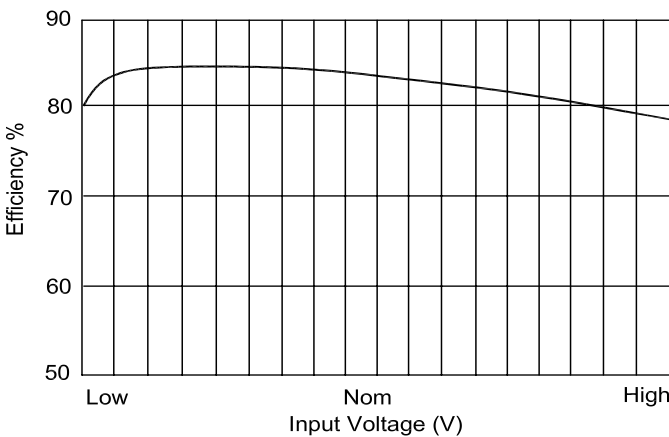


**Efficiency vs Input Voltage**

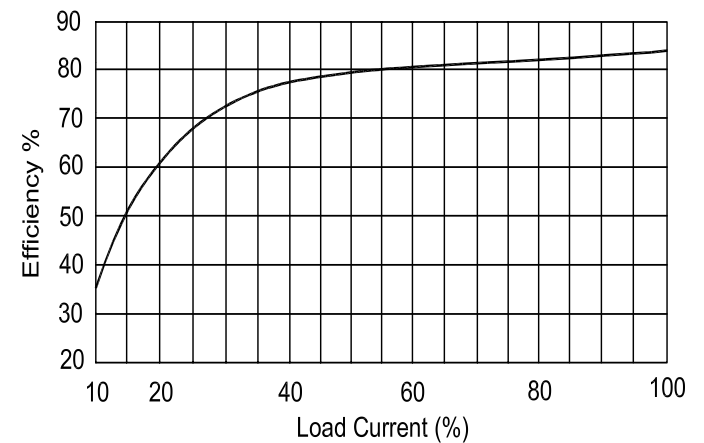


**Efficiency vs Output Load**

### Dual Output



**Efficiency vs Input Voltage**



**Efficiency vs Output Load**