



3 Watt SMS Single and Dual Series



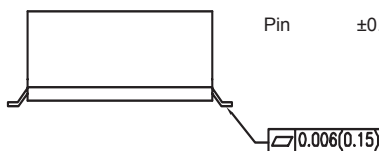
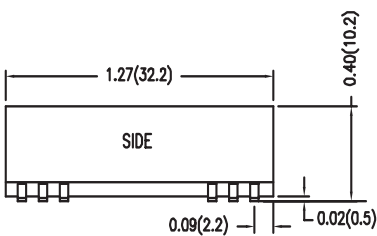
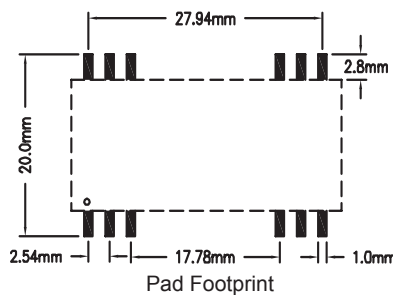
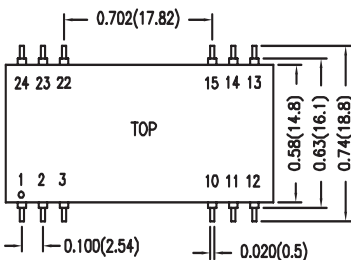
- Efficiency up to 83%
- 1500VDC Isolation
- MTBF > 1,000,000 Hours
- 2:1 Input Range
- Short Circuit Protection
- UL60950 Approved
- RoHS Compliant



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)
SMS3H12S3R3	12	9-18	3.3	20	257	70	700	25	25	75	4700 µF
SMS3H12S5	12	9-18	5	20	316	60	600	25	25	79	4700 µF
SMS3H12S12	12	9-18	12	20	305	25	250	25	25	82	4700 µF
*SMS3H12S15	12	9-18	15	20	305	20	200	25	25	82	4700 µF
*SMS3H12D5	12	9-18	±5	20	321	±30	±300	25	25	78	180 µF
SMS3H12D12	12	9-18	±12	20	309	±12.5	±125	25	25	81	180 µF
SMS3H12D15	12	9-18	±15	20	309	±10	±100	25	25	81	180 µF
SMS3H24S3R3	24	18-36	3.3	5	127	70	700	15	50	76	4700 µF
SMS3H24S5	24	18-36	5	5	156	60	600	15	50	80	4700 µF
SMS3H24S12	24	18-36	12	5	151	25	250	15	50	83	4700 µF
*SMS3H24S15	24	18-36	15	5	151	20	200	15	50	83	4700 µF
*SMS3H24D5	24	18-36	±5	5	158	±30	±300	15	50	79	180 µF
SMS3H24D12	24	18-36	±12	5	152	±12.5	±125	15	50	82	180 µF
SMS3H24D15	24	18-36	±15	5	152	±10	±100	15	50	82	180 µF
SMS3H48S3R3	48	36-75	3.3	3	63	70	700	10	100	76	4700 µF
SMS3H48S5	48	36-75	5	3	78	60	600	10	100	80	4700 µF
SMS3H48S12	48	36-75	12	3	75	25	250	10	100	83	4700 µF
*SMS3H48S15	48	36-75	15	3	75	20	200	10	100	83	4700 µF
*SMS3H48D5	48	36-75	±5	3	79	±30	±300	10	100	79	180 µF
SMS3H48D12	48	36-75	±12	3	76	±12.5	±125	10	100	82	180 µF
SMS3H48D15	48	36-75	±15	3	76	±10	±100	10	100	82	180 µF

* Models denoted with "*" are not CSA approved.

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	-Vin	-Vin
3	NC	NC
10	NC	Common
11	NC	NC
12	NC	-Vout
13	+Vout	+Vout
14	NC	NC
15	-Vout	Common
22	NC	NC
23	+Vin	+Vin
24	+Vin	+Vin

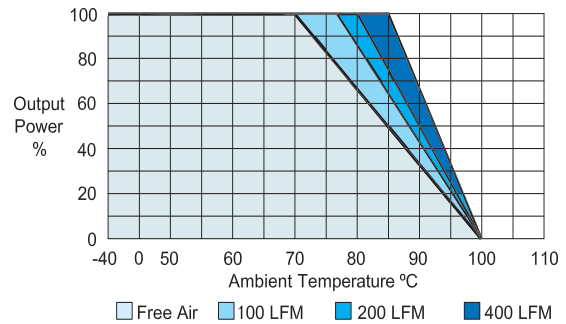


See Model Selection Table for Model Specific Parameters

Input Parameters		Min	Typ	Max	Units
Reverse Polarity Input Current				0.5	A
Short Circuit Input Power				1500	mW
Start Voltage	12 Vin	4.5	6	8	VDC
	24 Vin	8	12	18	
	48 Vin	16	24	36	
Under Voltage Shutdown	12 Vin			8	VDC
	24 Vin			16	
	48 Vin			32	
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%			±0.3	±1.0	%
Line Regulation Vin=Min. to Max.			±0.1	±0.3	%
Ripple & Noise (20MHz)			50	75	mV P-P
Ripple & Noise (20 MHz) Over Line, Load & Temp				100	mV P-P
Ripple & Noise (20 MHz)				10	mV RMS
Over Power Protection		120			%
Transient Recovery Time 25% Load Step Change			200	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, seconds	60	1500			VDC
Isolation Resistance 500VDC		1000			Mohms
Isolation Capacitance, 100kHz, 1V			65	100	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
Moisture Sensitivity Level (MLS) Temperature		IPC/JEDEC J-STD-20 Level 2			
Cooling		Free-Air Convection			
Lead Free Solder Process		IPC/JEDEC J-STD-020C peak temp. 245C/10 sec.			
Case Size		1.27 x 0.58 x 0.4 inches 32.3 x 14.8 x 10.2 mm			
Case Material		Non Conductive Black Plastic (UL94V-0)			
Weight		8.8g			
Agency Approval		UL60950 (see model selection table)			

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. For optimum performance we recommend 4700µF maximum capacitive load.
- 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 - It is not recommended to use water-wash process on the SMS series.
- 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

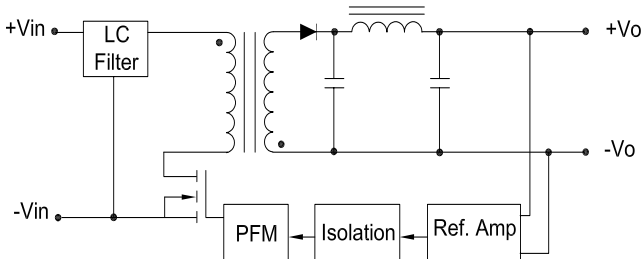
To avoid exceeding the maximum temperature rating of the components inside the power module, the case temperature must be kept below 90°C.

Input Fuse Selection Table	
12V Input	750 mA Slow-Blow
24V Input	350 mA Slow-Blow
48V Input	200 mA Slow-Blow

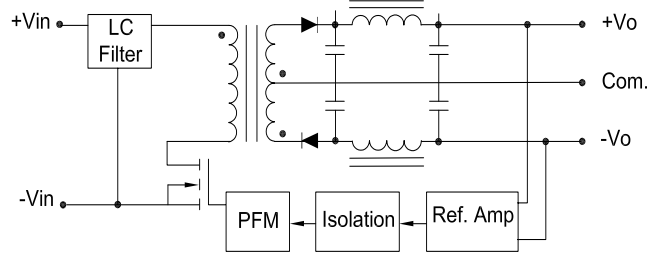
External fusing should be used for system protection due to a catastrophic failure. See ConTech website for Fusing Application Notes to determine the correct fuse.



Block Diagrams



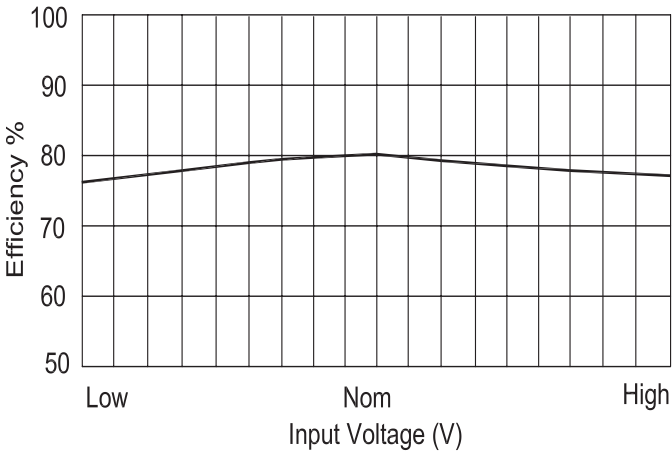
Single Output Block Diagram



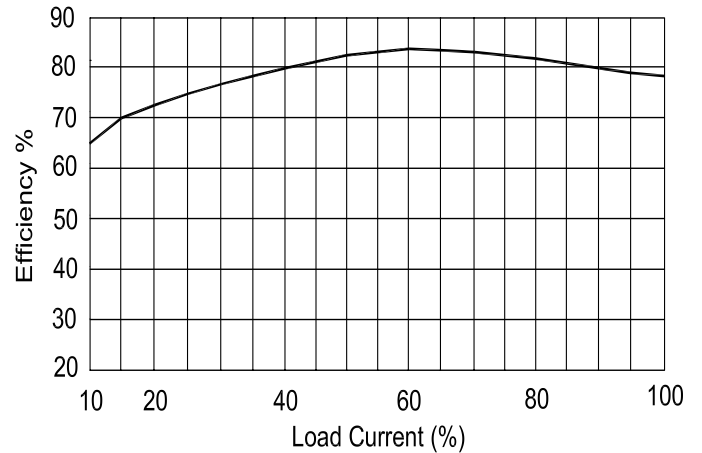
Dual Output Block Diagram

Efficiency Curves

Single Output

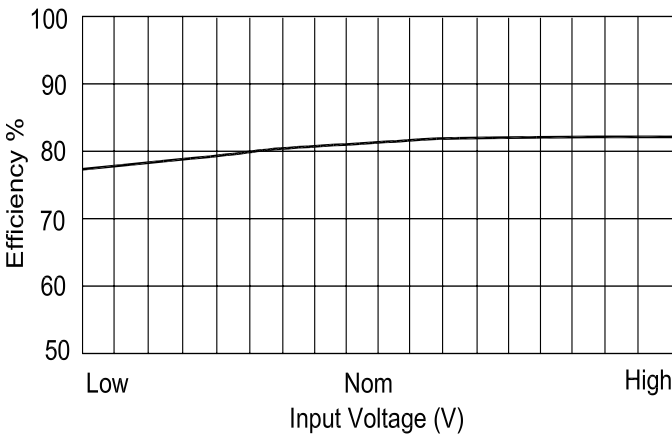


Efficiency vs Input Voltage

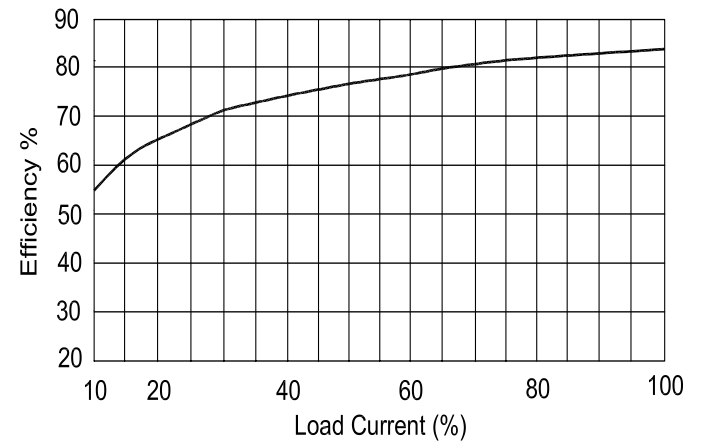


Efficiency vs Output Load

Dual Output



Efficiency vs Input Voltage



Efficiency vs Output Load

