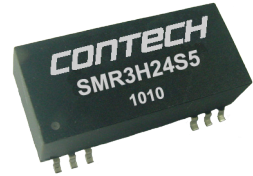




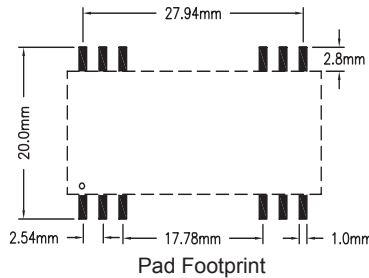
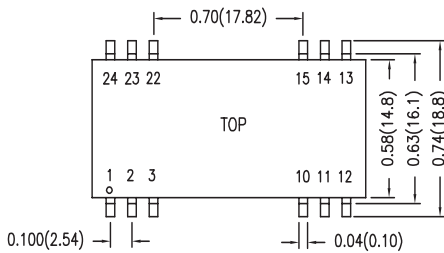
- Efficiency up to 83%
- 1500VDC Isolation
- MTBF > 1,000,000 Hours
- 4:1 Input
- Short Circuit Protection
- Remote On/Off
- RoHS Compliant



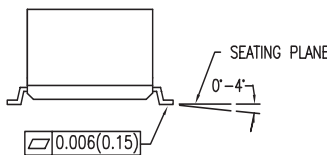
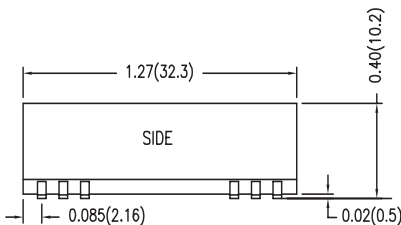
2-3 Watt SMR Single and Dual Series



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)				
SMR2R5H24S3R3	24	9-36	3.3	20	138	75	750	10	50	75	3000 μ F
SMR3H24S5	24	9-36	5	20	158	60	600	10	50	79	3000 μ F
SMR3H24S12	24	9-36	12	20	154	25	250	10	50	81	3000 μ F
SMR3H24S15	24	9-36	15	20	154	20	200	10	50	81	3000 μ F
SMR3H24D5	24	9-36	\pm 5	20	160	\pm 30	\pm 300	10	50	78	180 μ F
SMR3H24D12	24	9-36	\pm 12	20	154	\pm 12.5	\pm 125	10	50	81	180 μ F
SMR3H24D15	24	9-36	\pm 15	20	154	\pm 10	\pm 100	10	50	81	180 μ F
SMR2R5H48S3R3	48	18-75	3.3	10	68	75	750	5	100	76	3000 μ F
SMR3H48S5	48	18-75	5	10	78	60	600	5	100	80	3000 μ F
SMR3H48S12	48	18-75	12	10	75	25	250	5	100	83	3000 μ F
SMR3H48S15	48	18-75	15	10	75	20	200	5	100	83	3000 μ F
SMR3H48D5	48	18-75	\pm 5	10	78	\pm 30	\pm 300	5	100	80	180 μ F
SMR3H48D12	48	18-75	\pm 12	10	75	\pm 12.5	\pm 125	5	100	83	180 μ F
SMR3H48D15	48	18-75	\pm 15	10	75	\pm 10	\pm 100	5	100	83	180 μ F



Pin Connections (NC) Not Connected		
Pin	Single	Dual
1	-Vin	-Vin
2	-Vin	-Vin
3	Remote On/Off	Remote On/OFF
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



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



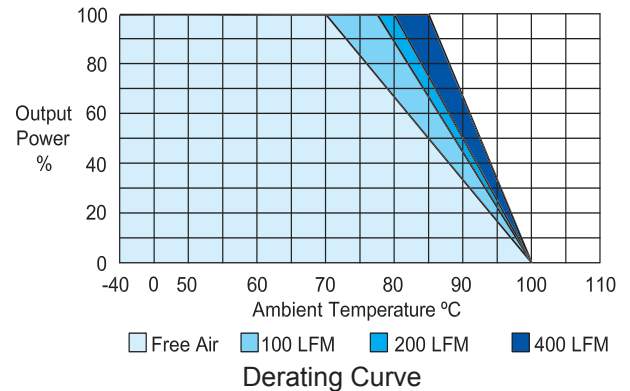
See Model Selection Table for Model Specific Parameters

Input Parameters	Min	Typ	Max	Units	
Reverse Polarity Input Current			1	A	
Short Circuit Input Power			2000	mW	
Start Voltage	24 Vin 48 Vin	4.5 8.5	6 12	8.5 17	VDC
Under Voltage Shutdown	24 Vin 48 Vin			8 16	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 I _o = 10% to 100%		±0.3	±1.0	%	
Line Regulation Vin=Min. to Max.		±0.2	±0.5	%	
Ripple & Noise (20MHz)		50	75	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		150	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		350	500	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	
Lead Free Solder Process	IPC/JEDEC J-STD-020C Peak Temp. 245°C/10 sec.				
Moisture Sensitivity Level (MSL) Temperature	IPC/JEDEC J-STD-20 LEVEL 3				
Cooling	Free-Air Convection				
Case Size	1.27 x 0.58 x 0.40 inches 32.3 x14.8 x 10.2 mm				
Case Material	Non-Conductive Black Plastic (UL94V-0)				
Weight	8.8g				

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			5	mA
Control Input Current (on) Vin=Min. to Max.			-400	µA
Control Input Current (off) Vin=Min. to Max.			-400	µA
Control Common	Referenced to Negative Logic			

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.
- 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-washing process on SMR models.
- 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.

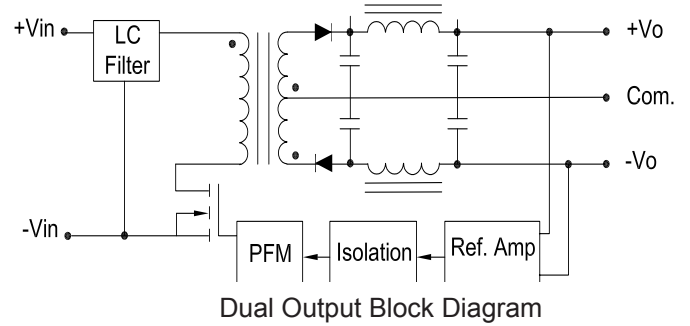
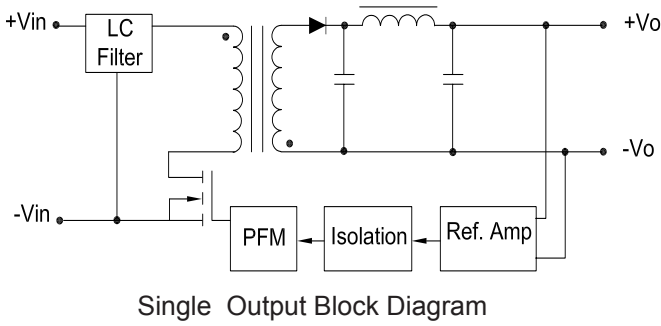


Input Fuse Selection Table	
24V Input	1000 mA Slow-Blow
48V Input	500 mA Slow-Blow

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.

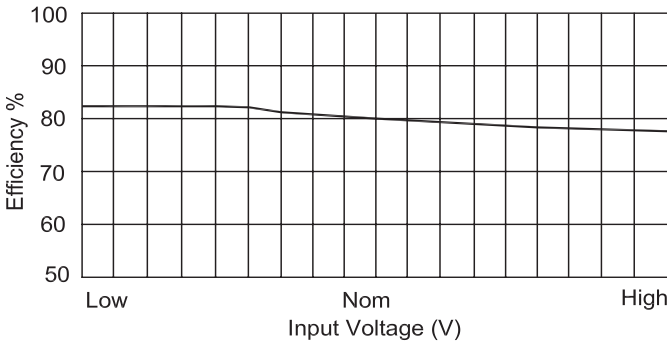


Block Diagrams

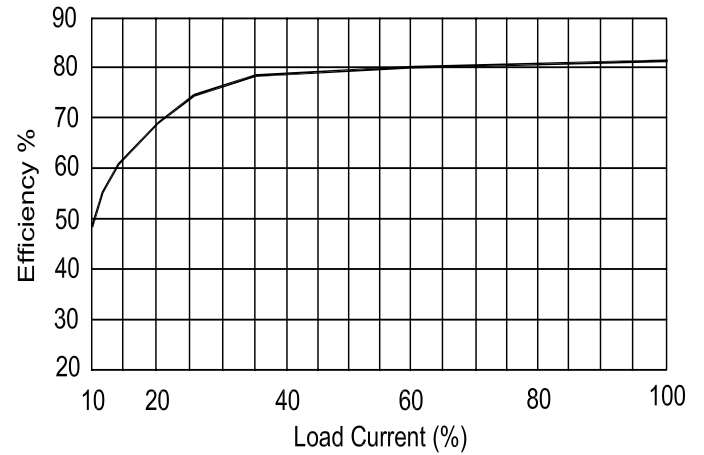


Efficiency Curves

Single Output

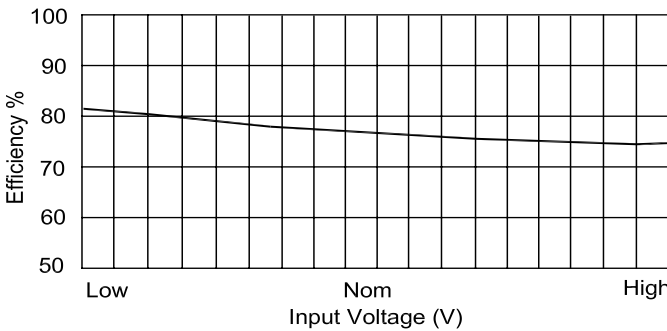


Efficiency vs Input Voltage

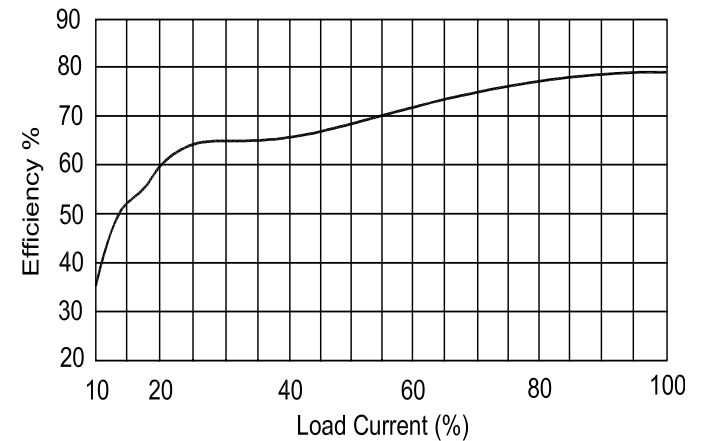


Efficiency vs Output Load

Dual Output



Efficiency vs Input Voltage



Efficiency vs Output Load