

- Efficiency up to 79%
- 3000VDC Isolation
- MTBF > 2,000,000 Hours
- RoHS Compliant

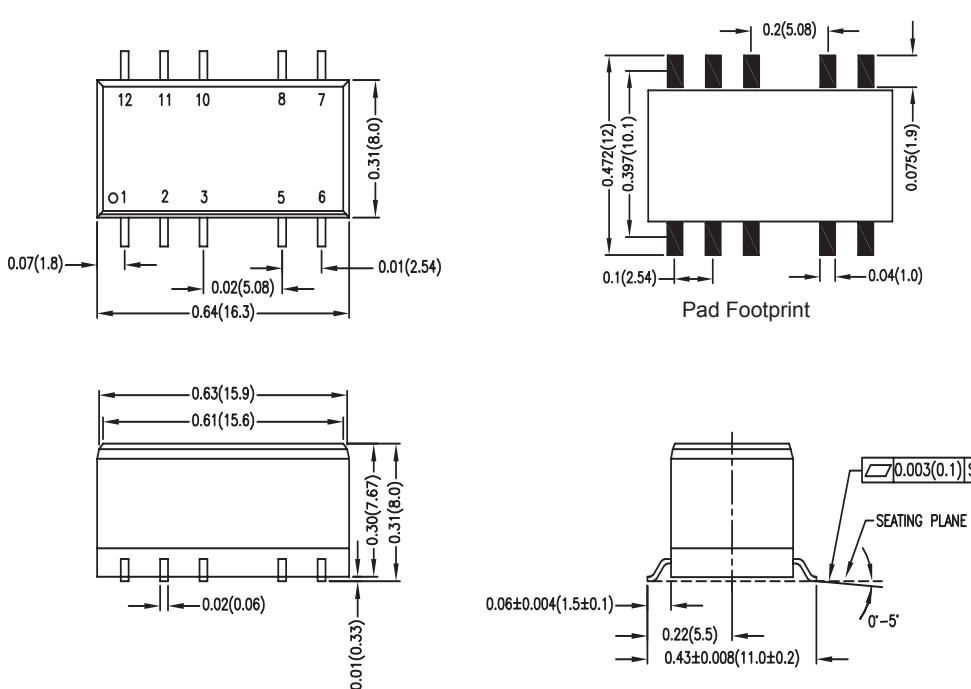


1 Watt SMH

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		Output	Input		Output					
	Nom. (VDC)	Range (VDC)	(VDC)	@ No Load (mA)	@ Max Load (mA)	Min (mA)	Max (mA)				
SMH1K5S3R3	5	4.5 - 5.5	3.3	30	238	5	260	10	9	72	33 µF
SMH1K5S5	5	4.5 - 5.5	5	30	267	4	200	10	9	75	33 µF
SMH1K5S12	5	4.5 - 5.5	12	30	255	2	84	7	9	79	4.7 µF
SMH1K5S15	5	4.5 - 5.5	15	30	251	1.5	67	7	9	80	4.7 µF
SMH1K5D5	5	4.5 - 5.5	±5	30	267	±2	±100	10	9	75	10 µF
SMH1K5D12	5	4.5 - 5.5	±12	30	255	±0.8	±42	7	9	79	2.2 µF
SMH1K5D15	5	4.5 - 5.5	±15	30	255	±0.7	±34	7	9	80	2.2 µF
SMH1K12S3R3	12	10.8 - 13.2	3.3	15	98	5	260	10	18	73	33 µF
SMH1K12S5	12	10.8 - 13.2	5	15	110	4	200	8	18	76	33 µF
SMH1K12S12	12	10.8 - 13.2	12	15	105	2	84	5	18	80	4.7 µF
SMH1K12S15	12	10.8 - 13.2	15	15	103	1.5	67	5	18	81	4.7 µF
SMH1K12D5	12	10.8 - 13.2	±5	15	110	±2	±100	8	18	76	10 µF
SMH1K12D12	12	10.8 - 13.2	±12	15	105	±0.8	±42	5	18	80	2.2 µF
SMH1K12D15	12	10.8 - 13.2	±15	15	106	±0.7	±34	5	18	80	2.2 µF
SMH1K24S3R3	24	21.6 - 26.4	3.3	8	51	5	260	10	30	70	33 µF
SMH1K24S5	24	21.6 - 26.4	5	8	57	4	200	8	30	73	33 µF
SMH1K24S12	24	21.6 - 26.4	12	8	53	2	84	5	30	79	4.7 µF
SMH1K24S15	24	21.6 - 26.4	15	8	53	1.5	67	5	30	79	4.7 µF
SMH1K24D5	24	21.6 - 26.4	±5	8	57	±2	±100	8	30	73	10 µF
SMH1K24D12	24	21.6 - 26.4	±12	8	53	±0.8	±42	5	30	79	2.2 µF
SMH1K24D15	24	21.6 - 26.4	±15	8	54	±0.7	±34	5	30	79	2.2 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	+Vin	+Vin
3	NC	NC
5	-Vout	Common
6	NC	-Vout
7	NC	NC
8	+Vout	+Vout
10	NC	NC
11	NC	NC
12	NC	NC

See Model Selection Table for Model Specific Parameters

Input Parameters	Min	Typ	Max	Units
Reverse Polarity Input Current			0.3	A
Switching Frequency	50	100	150	kHz
Input Filter	Internal Capacitor			
Output Parameters	Min	Typ	Max	Units
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 Vin Change of 1%		±1.2	±1.5	%
Ripple & Noise (20MHz)		75	100	mV P-P
Ripple & Noise (20 MHz) Over Line, Load & Temp			150	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	3000			VDC
Isolation Resistance 500VDC	10			Gohms
Isolation Capacitance, 100kHz, 1V		60	100	pF
Operating Temperature (Ambient)	-25		+75	°C
Storage Temperature	-25		+125	°C
Humidity			95	%
MTBF MIL-HDBK-217F @25°C, Ground Benign	2000			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	0.64 x 0.31 x 0.30 inches 16.3 x 8.0 x 7.67 mm			
Case Material	Non Conductive Black Plastic (UL94V-0)			
Weight	2g			

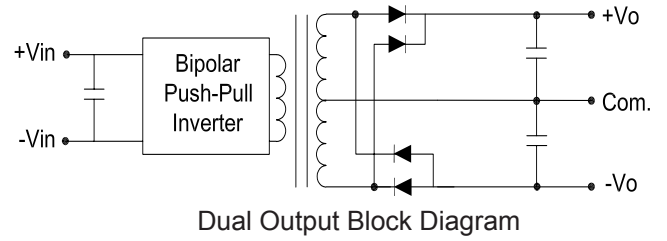
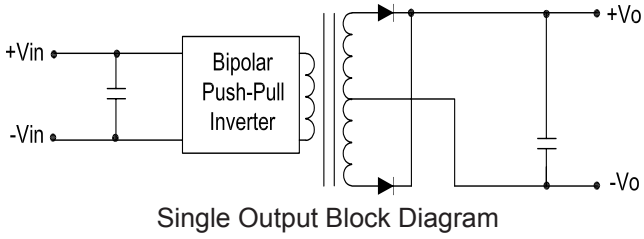
Notes:

1. Specifications typical at Ta=+25°C, resistive load, nominal input voltage, full rated output current unless otherwise noted.
2. 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.
3. 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.
4. When measuring peak-to-peak output noise, use a Cout 0.33µF 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.
5. Water washability - It is not recommended to use water-washing process on SMH models.
6. See ConTech website for Definition of Terms, Application Notes, and Test Setups and Parameters. www.ConTech-us.com/appnotes.html.
7. Specifications subject to change without notice.
8. See ConTech website www.ConTech-us.com/pdf/RoHS.pdf for RoHS Statement.

Input Fuse Selection Table	
5V Input	500 mA Slow-Blow
12V Input	200 mA Slow-Blow
24V Input	100 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



Tolerance Envelope Graphs

