

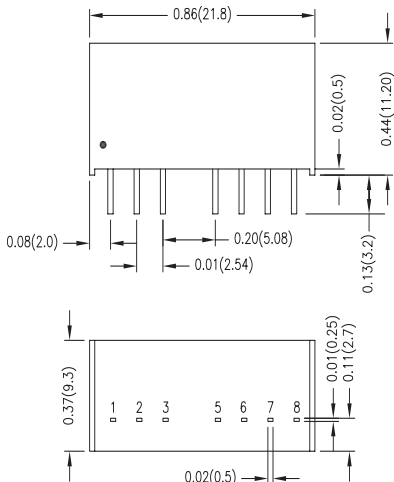
# 5 Watt SPJ Single and Dual Series



- Efficiency up to 84%
- 1500VDC Isolation
- MTBF > 2,400,000 Hours
- No Minimum Load Required
- Remote On/Off
- RoHS Compliant
- CSA Approved



Model Number	Voltage			Current			Input Overvoltage (1000ms)	Efficiency	Capacitive Load
	Input		Output	Input		Output			
	Nom. (VDC)	Range (VDC)	(VDC)	@ No Load (mA)	@ Max Load (mA)	Max (mA)	Max (VDC)	@ Max Load (% Typ)	Max (Dual each output)
SPJ5H12S3	12	4.5 - 18	3.3	60	389	1075	36	76	1000 µF
SPJ5H12S5	12	4.5 - 18	5	60	514	1000	36	81	1000 µF
SPJ5H12S12	12	4.5 - 18	12	60	502	417	36	83	220 µF
SPJ5H12S15	12	4.5 - 18	15	60	503	334	36	83	100 µF
SPJ5H12S24	12	4.5 - 18	24	60	510	209	36	82	100 µF
SPJ5H112D12	12	4.5 - 18	±12	60	516	±209	36	81	100 µF
SPJ5H12D15	12	4.5 - 18	±15	60	509	±167	36	82	47 µF
SPJ5H24S3R3	24	9 - 36	3.3	30	194	1075	50	76	1000 µF
SPJ5H24S5	24	9 - 36	5	30	257	1000	50	81	1000 µF
SPJ5H24S12	24	9 - 36	12	30	251	417	50	83	220 µF
SPJ5H24S15	24	9 - 36	15	30	249	334	50	84	100 µF
SPJ5H12S24	24	9 - 36	24	30	252	209	50	83	100 µF
SPJ5H24D12	24	9 - 36	±12	30	255	±209	50	82	100 µF
SPJ5H24D15	24	9 - 36	±15	30	255	±167	50	82	47 µF
SPJ5H48S3R3	48	18 - 75	3.3	20	97	1075	100	76	1000 µF
SPJ5H48S5	48	18 - 75	5	20	130	1000	100	80	1000 µF
SPJ5H48S12	48	18 - 75	12	20	126	417	100	83	220 µF
SPJ5H48S15	48	18 - 75	15	20	124	334	100	84	100 µF
SPJ5H12S24	48	18 - 75	24	20	127	209	100	82	100 µF
SPJ5H48D12	48	18 - 75	±12	20	127	±209	100	82	100 µF
SPJ5H48D15	48	18 - 75	±15	20	126	±167	100	83	47 µF



Dimensions are inches (mm) unless noted

Tolerance: Inches      Millimeters

X.XX ±0.02      X.X ±0.5

X.XXX ±0.01      X.XX ±0.25

Pin      ±0.004      ±0.1

Pin Connections		
Pin	Single Output	Dual Output
1	-Vin	-Vin
2	+Vin	+Vin
3	Remote On/Off	Remote On/Off
5	NC	NC
6	+Vout	+Vout
7	-Vout	Common
8	NC	-Vout

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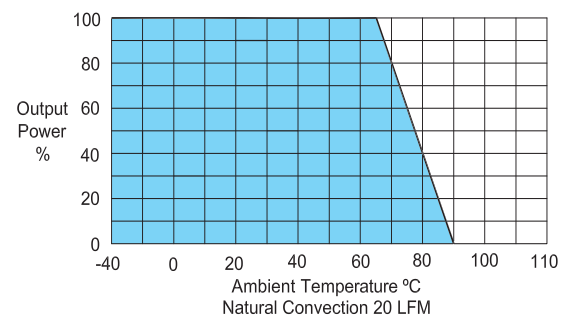
See Model Selection Table for Model Specific Parameters

Input Parameters	Min	Typ	Max	Units
Short Circuit Input Power			2500	mW
Start Voltage			4.5	VDC
12 Vin			9	
24 Vin			18	
48 Vin				
Under Voltage Shutdown			4	VDC
12 Vin			85	
24 Vin			17.5	
48 Vin				
Switching Frequency	100			kHz
Input Filter	Capacitor Type			
Output Parameters	Min	Typ	Max	Units
Output Voltage Accuracy			±2.0	%Vnom
Output Voltage Balance Dual Output, Balanced Loads		±1.0	±2.0	%
Load Regulation Io = 0% to 100%		±0.5	±1.0	%
Line Regulation Vin=Min. to Max.		±0.3	±0.5	%
Minimum Load	None Required			
Ripple & Noise (20MHz)			100	mV P-P
Transient Recovery Time 25% Load Step Change		500		µS
Transient Response 25% Load Step Change		±3	±5	%
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		250		pF
Operating Temperature (Ambient)	-40		+75	°C
Case Temperature			+90	°C
Storage Temperature	-55		+125	°C
Humidity			95	%
MTBF MIL-HDBK-217F @25°C, Ground Benign	2.4			M Hours
Cooling	Free-Air Convection			
Case Size	0.86 x 0.37 x 0.44 inches 21.8x 9.3 x 11.2 mm			
Case Material	Non Conductive Black Plastic (UL94V-0)			
Weight	4.8g			
Agency Approvals	CSA 60950-1			

Remote On/Off	Min	Typ	Max	Units
Converter On	Open or High Impedance			
Converter Off	2-4 mA current applied via 1 Kohm resistor			
Device Standby Input Current Device off & Nominal Vin		2.5		mA
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%.
- 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 - 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.
- 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).
- Specifications subject to change without notice.
- See ConTech website [www.ConTech-us.com/pdf/rohs.pdf](http://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.

