

Features

- Synchronous rectification topology
- No air flow or heat sink required
- Low profile of only 0.35 inch
- High power density up to 28.5W/inch³
- 1500V, 10M Ω input-to-output isolation
- 2.5V, 3.3V, 5V or 12v outputs
- 3 input voltage ranges: 9-18V, 18-36V, and 36-75V
- -40°C to +60°C ambient operation without de-rating with no air flow
- -40°C to +100°C ambient operation without de-rating with air flow
- Input under-voltage lockout
- Output current limit and short circuit protection
- Six-sided metal shielding for zero EMI/EMC emission
- MTBF of 850,000 hours @ 50°C (MIL-HDBK-217F)



Description

The S Series, comprising 10 different models is targeted specifically at the telecommunication, industrial electronics, mobile telecommunication, and distributed power markets. This series offers three wide input voltage ranges of 9-18V (12Vdc nom.), 18-36V (24Vdc nom.), and 36-75V (48Vdc nom.).

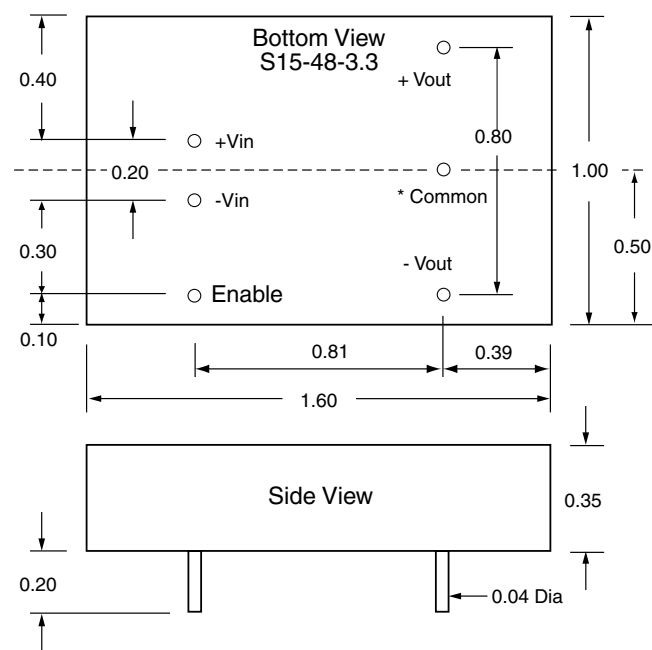
Output voltages are 2.5, 3.3, 5 or 12 Volts. All models feature input PI filters, input under voltage lockout, output current limiting, and short circuit protection.

The aluminum case achieves efficient heat transfer and 100% EMI screening. The converters combine creative design concept and conservative component selection to achieve very high reliability, high performance and low cost.

Model S15 Selection Guide

Typical @ T_a=+25°C under nominal line voltage and full load conditions unless noted.

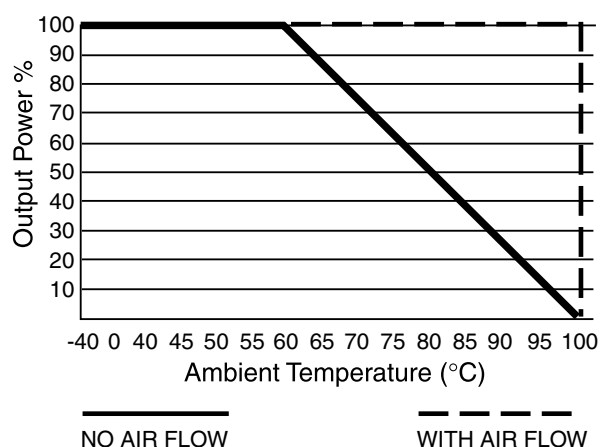
Model	Input				Output		Efficiency
	Voltage (Volts)		Current (mA)		Voltage	Current	
	Nominal	Range	No load	Full load	(Volts)	(A)	Typ.
S15-24-2.5	24	18-36	45	496	2.5	5.0	86%
S15-48-2.5	48	36-75	25	248	2.5	5.0	86%
S15-24-3.3	24	18-36	45	632	3.3	4.5	87%
S15-48-3.3	48	36-75	25	316	3.3	4.5	87%
S15-24-5	24	18-36	45	718	5.0	3.0	89%
S15-48-5	48	36-75	25	359	5.0	3.0	89%
S15-48-12	48	36-75	25	359	12.0	1.25	89%
S15-48-12D	48	36-75	25	359	± 12.0	0.625	89%



* Optional 'Common' pin is only for dual output, S15-48-12D.

NOTES:

- All dimensions in inches
- Tolerance is x.xx in +/- .02 in.



The de-rating table above is for no air flow over the converter. There is **no power de-rating up to 100 °C** operation with air flow. Please call for more information on the maximum output power versus rate of air flow in LFM.

Electrical Specifications

Typical @ T_a=+25°C under nominal line voltage and full load conditions unless noted.

Model S15

Input					
Parameter	Notes and Conditions	Min.	Typ	Max.	Unit
Operating Input Voltage ranges	24 Vdc models	18	24	36	VDC
	48 Vdc models	36	48	75	VDC
Under-Voltage Lockout Turn-ON Threshold	12 Vdc models	8			VDC
	24 Vdc models	17			VDC
	48 Vdc models	35			VDC
Under-Voltage Lockout Turn-OFF Threshold	12 Vdc models			7	VDC
	24 Vdc models			16	VDC
	48 Vdc models			34	VDC
Input Current	See model selection guide, Standby mode (OFF, UVLO) 5mA				
Enable (Output Turn OFF)	Optional Function	0		1.2	VDC
Enable (Output Turn ON)		Open or > 3VDC			
Input Filter	All models	Pi Filter			
Output					
Parameter	Notes and Conditions	Min.	Typ	Max.	Unit
Output Voltage Accuracy	50% Load			±1.5	%
Line Regulation	Low line to High line			±0.3	%
Load Regulation	10% to 100% load			±0.5	%
Ripple & Noise (20MHz bandwidth)	Over Line, Load & Temp.		50	100 30	mV pk-pk mV RMS
Temperature Coefficient				±0.04	% / °C
Transient Recovery Time	25% load step change			800	µSec.
Transient Peck Deviation	25% load step change			2	%Vo
Start-Up Time			50	100	mSec.
Output Power Protection		100	120	140	%
General Specifications					
Parameter	Notes and Conditions	Min.	Typ	Max.	Unit
Switching Frequency		285	300	315	KHz
Storage Temperature range	All model	-55		125	°C
Operating Case Temperature	All models	-40		100	°C
Isolation Voltage	All models, 1 Minute			1500	VDC
Isolation Resistance	All models, 500VDC	10			MΩ
Isolation Capacitance	All models			20	pF
Humidity	All models			95	%
Calculated MTBF	MIL-HDBK-217F @ 50°C	850,000			Hours
Weight				28(1.0)	g (oz.)
Efficiency	See model selection guide				
Dimensions	1.5" x 1" x 0.35" (38 x 25 x 9mm)				
Case Material	Aluminum				