BTCPower™

Broadband TelCom Power, Inc.

Redefining "Current" Limits In Power Conversion

S15 Series — 15W High Efficiency Low Power Bricks

Description

The S15 series of high efficiency, low power DC/DC converters offer power levels that exceed other bricks with similar footprint. With a wide input voltage range of 18-24 or 36-75V they are available with an output voltage of either 1.5, 1.8, 2.5, 3.3, 5, 12, ±12, 15, or ±15 Volts. All models feature an input filter, input undervoltage lockout, output current limiting and short circuit protection. The fully enclosed, encapsulated construction aluminum heat spreader design achieves very efficient heat transfer with no hot spots. The use of patented design concepts facilitate maximum power delivered with the highest efficiency up to 90%. The converters combine creative design concepts with highly derated power devices to achieve very high reliability, high performance and low cost solution to systems designers that are challenged to maximize power and minimize board space.

Features

- Delivers up to 15W in 1"x1.6" format
- Synchronous rectification topology
- No airflow or heatsink required
- Low profile of only 0.35"
- 1.5V, 1.8V, 2.5V, 3.3V, 5V, 12V, ± 12 V, 15V or ± 15 V output modules
- -40°C to +85 °C ambient operation
- Meets Basic Insulation requirements of EN60950
- UL 60950 recognized, TUV EN60950, and CSA C22.2 No. 60950-00 Certified
- Meets conducted limits of FCC Class B and CEI IEC61204-3 Class B with external filter

Applications

- Telecommunications
- Data Communications
- Wireless Communications
- Networking Gear
- Servers, Switches and Data Storage
- Semiconductor Test Equipment
- Distributed Power Architecture

Specification Summary

- 6A @ 1.5V, 6A @ 1.8V, 5A @ 2.5V, 4 .5A @ 3.3V, 3A @ 5 V, 1.25A @ 12V, 0.625A @ ± 12V, 1A @ 15V, 0.5A @ ± 15V
- Tightly output regulation, typical ±1%
- No minimum load required
- Ripple & Noise (20Mhz BW) 150 mv (pk-pk)
- Wide input operating range 36-75V
- On/Off pin control
- Output adjustment +/-10% range
- 2000V, 10M input-to-output isolation
- Enclosed construction with heat spreader for low temperature rise
- Enclosed six-sided metal shield contruction for low EMI/RFI
- Output overcurrent protection
- Over Temperature protection
- Input Under voltage protection
- MTBF of 5,000,000 hours @ 50°C (Bellcore)

Broadband TelCom Power, Inc. – 1719 S. Grand Avenue, Santa Ana, CA 92705 U.S.A.
Tel.: 714-259-4888 • Fax: 714-259-0840 • www.btcpower.com • Email: sales@btcpower.com

Part Number and Selection Information

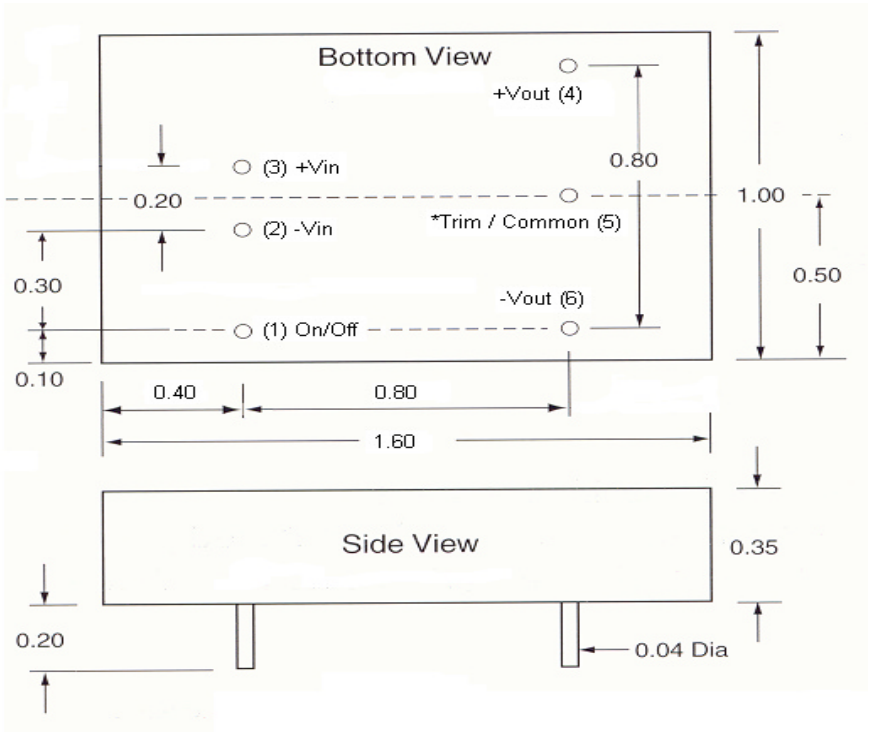
Model	Input				Output		Efficiency
	Voltage (Volts)		Current (A)		Voltage	Current	75% Load
Part Number	Nominal	Range	No load	Full load	(Volts)	(Amps)	(%)
S15-24-1.5	24	18-36	0.030	0.60	1.5	6.0	84
S15-24-1.8	24	18-36	0.030	0.72	1.8	6.0	85
S15-24-2.5	24	18-36	0.027	0.74	2.5	5.0	85
S15-24-3.3	24	18-36	0.027	1.0	3.3	4.5	86
S15-24-5	24	18-36	0.025	1.0	5.0	3.0	88
S15-48-1.5	48	36-75	0.030	0.25	1.5	6.0	86
S15-48-1.8	48	36-75	0.030	0.26	1.8	6.0	87
S15-48-2.5	48	36-75	0.027	0.29	2.5	5.0	87
S15-48-3.3	48	36-75	0.027	0.36	3.3	4.5	88
S15-48-5	48	36-75	0.025	0.35	5.0	3.0	90
S15-48-12	48	36-75	0.025	0.35	12	1.25	90
S15-48-12D	48	36-75	0.025	0.35	± 12.0	± 0.625	90
S15-48-15	48	36-75	0.025	0.35	15	1.0	90
S15-48-15D	48	36-75	0.025	0.35	± 15.0	± 0.5	90

Typical at Ta= +25 °C under nominal line voltage and 75% load conditions, unless noted.

Outline Information and Pin-out

Pin Connection (Function)		
Pin#	**Single Output**	**Dual Output**
1	On/Off	On/Off
2	Vin -	Vin -
3	Vin +	Vin +
4	Vout +	Vout +
5	Trim	Common
6	Vout -	Vout -

All dimensions are in inches [mm]
All pins are dia. 0.040 [1.02]
Pin material: Brass
Pin finish: Gold plated
Insulator pad around pins: Silicone rubber
Case: Aluminum material with anodized finish. Weight: 25.2g (0.9oz)



The information and specifications contained in this brief are believed to be accurate and reliable at the time of publication. Specifications are subject to change without notice. Refer to product specification sheet for performance characteristics and application guidelines.

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