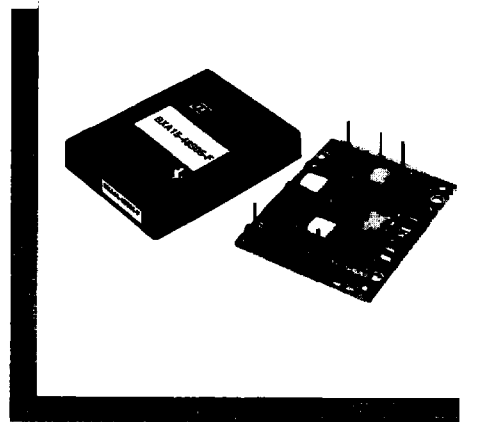


BXA15 SERIES

Wide Input Telecom DC/DC Converters

- 3" X 2.4" X 0.5" Package With Standoffs
- Designed to Meet EN60950 2nd Edition, UL1950, EN41003, UL1459 2nd Edition
- Internal Implementation of VDE0871-A and IEC801-2
- Fixed Frequency Operation at 350 kHz
- MTBF in Excess of 1,000,000 Hours
- Pin Compatible with WR30, WR/XC and WR/U Series
- Efficiencies up to 84%
- 9-18V, 18-36V & 36-75V Input Voltage Ranges
- Two Year Warranty



Conceived as an application specific range of DC/DC Converters, the BXA15 Series key markets are telecoms, industrial electronics, test equipment, mobile communications and computer distributed power systems. Each of the products has been

tailored to meet end user needs thus simplifying design-in, reducing approval lead times and ensuring long term reliable operation in International markets.

SPECIFICATIONS

All specifications are typical at nominal line, full load and 25°C unless otherwise noted.

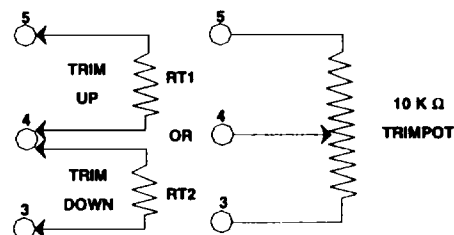
OUTPUT SPECIFICATIONS		
Voltage and Current		SEE TABLE
Load Regulation	Full Load-No Load	1.0%
Line Regulation	Low Line-High Line	0.2%
Temperature Coefficient		±0.02%/°C
Ripple and Noise (20 MHz Bandwidth)	3.3V	75mV pk-pk
	5.0V	50mV pk-pk
	All Others	100mV pk-pk
	All Models	20mV RMS
Short Circuit Protection		Indefinite
Overvoltage Protection		135% Vout
External Trim Range (Design Note 5)		±10%
GENERAL SPECIFICATIONS		
Agency Approvals	Europe	EN60950, EN41003 2nd Edition
	U.S.A.	UL1950, UL1459
Isolation Voltage (Inp-Out & Inp-Case)		
	12 & 24V In	1500VDC
	48V IN	2200VDC
Isolation Resistance		10 ⁹ ohms
Efficiency		See Table
Switching Frequency		350KHz
Size		3.0" X 2.4" X 0.5"
Weight		4.2 oz. (120g)
Case Material		Aluminum Substrate with Valox 420-SEO Case

INPUT SPECIFICATIONS		
Input Voltage	12VDC	9-18VDC
	24VDC	18-36VDC
	48VDC	36-75VDC
Input Transients	12 & 24V	IEC801-4
	48V	200V for 100µS (pr ETS300-132)
Max. Input Rise Fall Time		Output in Spec 5V/ms
Reverse Voltage Protection		Design Note 4 Yes
P1 Input Filter		Design Note 1 Yes
Conducted Emissions (Design Note 1)	12 and 24V	VDE0871-A, EN55022-A
	48V	VDE0871-A, EN55022-A
Conducted Emissions		Design Note 3 Level B Compliance
Remote Shutdown Option: (Ref to -Input)		
Logic Compatibility		CMOS TTL
ON		73 VDC or open circuit
OFF		<IVDL
Electrostatic Discharge		IEC801-2
ENVIRONMENTAL SPECIFICATIONS		
Temperature Max. Operating Baseplate: Design Note 6		100°C
Storage:		-55°C to +100°C
Thermal Impedance Baseplate to Air		6.5°C/W
Thermal Impedance With Heatsink		5.2°C/W
Material Flammability		Design Note 2 UL94V-0
MTBF	Belcore TR- NWT-332	
		1,000,000 Hours

Input Voltage Range	Input Current No Load (Nominal)	% Efficiency (Typ.)	Output Voltage	Output Current		Line Regulation LL-HL	Load Regulation FL-NL	Model Number
				Minimum	Maximum			
9-18V	100mA	72%	3.3V	0A	4000mA	0.2%	1.0%	BXA15-12S3V3
9-18V	100mA	78%	5V	0A	3000mA	0.2%	1.0%	BXA15-12S05
9-18V	100mA	82%	12V	0A	1250mA	0.2%	1.0%	BXA15-12S12
9-18V	100mA	84%	15V	0A	1000mA	0.2%	1.0%	BXA15-12S15
9-18V	100mA	80%	±5V	0A	±1500mA	0.2%	±1.0%	BXA15-12D05
9-18V	100mA	82%	±12V	0A	±625mA	0.2%	±1.0%	BXA15-12D12
9-18V	100mA	82%	±15V	0A	±500mA	0.2%	±1.0%	BXA15-12D15
9-18V	100mA	78%	±5V	0A	±1500mA	0.8%	±1.0%	BXA15-12T05-12
			±12V	0A	±310mA	0.8%	±2.5%	
9-18V	100mA	78%	+5V	0A	±1500mA	0.8%	±1.0%	BXA15-12T05-15
			±15V	0A	±250mA	0.8%	±2.5%	
18-36V	60mA	75%	3.3V	0A	4000mA	0.2%	1.0%	BXA15-24S3V3
18-36V	60mA	80%	5V	0A	3000mA	0.2%	1.0%	BXA15-24S05
18-36V	60mA	84%	12V	0A	1250mA	0.2%	1.0%	BXA15-24S12
18-36V	60mA	84%	15V	0A	1000mA	0.2%	1.0%	BXA15-24S15
18-36V	60mA	80%	±5V	0A	±1500mA	0.2%	±1.0%	BXA15-24D05
18-36V	60mA	84%	±12V	0A	±625mA	0.2%	±1.0%	BXA15-24D12
18-36V	60mA	84%	±15V	0A	±500mA	0.2%	±1.0%	BXA15-24D15
18-36V	60mA	80%	±5V	0A	1500mA	0.8%	±1.0%	BXA15-24T05-12
			±12V	0A	±310mA	0.8%	±2.5%	
18-36V	60mA	80%	+5V	0A	1500mA	0.8%	±1.0%	BXA15-24T05-15
			±15V	0A	±250mA	0.8%	±2.5%	
36-75V	30mA	75%	3.3V	0A	4000mA	0.2%	1.0%	BXA15-48S3V3
36-75V	30mA	80%	5V	0A	3000mA	0.2%	±1.0%	BXA15-48S05
36-75V	30mA	84%	12V	0A	1250mA	0.2%	1.0%	BXA15-48S12
36-75V	30mA	84%	15V	0A	1000mA	0.2%	1.0%	BXA15-48S15
36-75V	30mA	80%	±5V	0A	±1500mA	0.2%	±1.0%	BXA15-48D05
36-75V	30mA	84%	±12V	0A	±625mA	0.2%	±1.0%	BXA15-48D12
36-75V	30mA	84%	±15V	0A	±500mA	0.2%	±1.0%	BXA15-48D15
36-75V	30mA	80%	±5V	0A	1500mA	0.8%	±1.0%	BXA15-48T05-12
			±12V	0A	±310mA	0.8%	±2.5%	
36-75V	30mA	80%	+5V	0A	1500mA	0.8%	±1.0%	BXA15-48T05-15
			±15V	0A	±250max	0.8%	±2.5%	

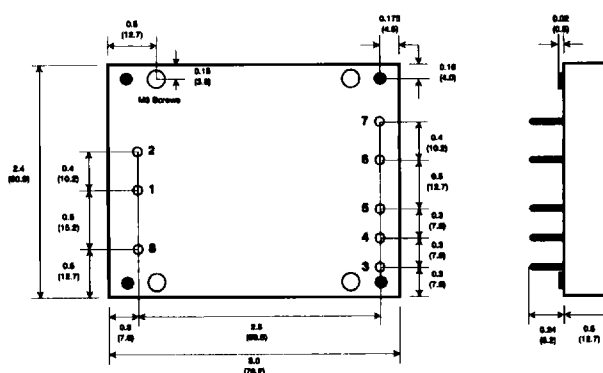
Design Notes:

- (1) An optional internal filter is available, which will meet VDE Level A, VDE0878 Level A and EN55022 Level A. Add the suffix "-F" to the model number. **Example: BXA-48S12-F**
- (2) For extended operating temperature include heatsink option, "1" in the model number. Maximum heatsink height is 12.5mm. **Example: BXA-48S15-1**
- (3) Conducted noise to VDE0871 Level B and EN55022 Level B may be achieved by putting a capacitor across the input pins. Recommended capacitor: 24V & 48V Input: 24+48 Nippon Chemi-Con 220μ, 100V SXE series, 12V Nippon Chemi-Con 2700μf, 25V LXC Series
- (4) Reverse voltage protection can be implemented by putting a fast blow fuse on the positive input rail. Rate the fuse for 48VDC at 2A; 24VDC at 4A; 12VDC at 8A.
- (5) Output voltage trim:



- (6) The maximum operating ambient temperature, without derating depends on internal power dissipation and hence efficiency and cooling method. The actual efficiency will depend on the operating conditions but will be within 3% of the typical efficiency specified. An accurate determination of maximum operating ambient temperature is only possible if the actual internal power dissipation and the subsequent rise in baseplate temperature of the unit is calculated for each application.

Mechanical Specifications



Pin Connections			
Pin Number	Single Output	Dual Output	Triple Output
1	+Vin	+Vin	+Vin
2	-Vin	-Vin	-Vin
3	+Sense	+Vout	+12V/15V
4	Trim	Common	Return
5	+Sense	-Vout	-12V/15V
6	+Vout	No Pin	+15V
7	-Vout	No Pin	No Pin
8	Remote On/Off	Remote On/Off	Remote On/Off