BXA15 SERIES

Single and dual output

[2 YEAR WARRANTY]

CE (LVD) **(48V models)**

- **Pin-compatible with WR/XC and BXA30 series**
- **Designed to meet telecom power supply interface standard ETS300-132-2**
- **UL, VDE and CSA safety approvals**
- **VDE0878 and EN55022 conducted emissions level A**
- **EN61000-4-2, -3, -4, -5, -6 compliant**
- **Fixed frequency operation at 350kHz**
- **MTBF in excess of 1,200,000 hours (demonstrated)**

The BXA15 Series, comprising 15 different models, has been conceived as an applications specific range of DC/DC converters, specifically addressing telecommunications, industrial electronics, test equipment, mobile telecommunications and distributed power applications. The series offers three wide input voltage ranges, 9-18VDC, 18-36VDC and 36-75VDC, and is available in single and dual output versions. Designed to meet ETSI telecoms interface standards ETS300-132-2 and BTR2511, together with internal filtering to EN55022 level A, safety approval to EN60950 and UL1950, and isolation of 1500VDC, the 48VDC models are ideal for telecommunications applications. The 12V and 24V models are particularly suited to industrial, mobile telecom and test equipment applications offering EN61000-4-2, -3, -4, -5 and -6 immunity compliance. Other features include low output ripple, overvoltage protection, indefinite short circuit protection, remote enable and remote sense.

SPECIFICATION

All specifications are typical at nominal input, full load at 25°C unless otherwise stated

OUTPUT SPECIFICATIONS		
Voltage adjustability		±10%
Line regulation	LL to HL (single/dual)	±0.2%/±0.4%
Load regulation	FL to NL (single/dual)	±0.2%/±0.4%
Ripple and noise 20MHz bandwidth	5.0V All others All models	60mV pk-pk 100mV pk-pk 20mV rms
Temperature coefficient		±0.02%/°C
Overvoltage protection	Transient	135% Vout
Short circuit protection	Singles Duals (single short) Duals (dual short)	Indefinite See Design Note 100 Indefinite
Transient response	25% to 100% load	4.0%
Voltage accuracy		±1.5%
Load cross regulation	Dual output 30% to 100% output variation	3.0%

INPUT SPECIFICATIONS		
Input voltage range	12Vin nominal 24Vin nominal 48Vin nominal	9 to 18VDC 18 to 36VDC 36 to 75VDC
Reverse voltage protection	See Note 6	Yes
Max. input rise and fall time	48V ETS300-132	5V/ms
Remote ON/OFF Logic compatibility ON OFF		CMOS/TTL Open circuit <1VDC

EMC CHARACTERISTICS		
Conducted emissions	EN55022, FCC part 15, Note4 EN55022, FCC part 15, Note5 VDE0878, Note 4 (48V)	Level A Level B Level A
Radiated emissions	EN55022, FCC part 15	Level A
ESD air	EN61000-4-2, level 3	Perf. criteria 2
ESD contact	EN61000-4-2, level 4	Perf. criteria 2
Surge	EN61000-4-5, level 3	Perf. criteria 2
Fast transients	EN61000-4-4, level 3	Perf. criteria 2
Radiated immunity	EN61000-4-3, level 3	Perf. criteria 2
Conducted immunity	EN61000-4-6, level 3	Perf. criteria 2

GENERAL SPECIFICATIONS		
Efficiency		See table
Isolation voltage	Input/output Input/case, 48V models	1500VDC 1500VDC
Switching frequency	Fixed	350kHz
Approvals and standards	See Note 9	VDE0805, EN60950 IEC950, UL1950, UL1459 CSA C22.2 No. 950
Case material		Aluminum substrate with plastic case
Material flammability		UL94V-0
Weight		120g (4.24oz)
MTBF	Demonstrated @ 58°C Calculated @ 25°C, See Note 8	1,214,000 hours 18,200,000 hours

ENVIRONMENTAL SPECIFICATIONS		
Thermal performance	Baseplate operating temperature, See Notes 7 Non-operating	-25°C to +100°C -55°C to +100°C
Thermal impedance baseplate to air	Free air convection	6.5°C/W
Thermal impedance with heatsink	See Note 7	5.2°C/W

15 Watt
Wide input DC/DC converters

INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT (MAX.)	INPUT CURRENT[1]	TYPICAL EFFICIENCY	REGULATION		MODEL NUMBER
					LINE[2]	LOAD [3]	
9-18VDC	5.0V	3.0A	100mA	80%	0.2%	0.2%	BXA15-12S05
9-18VDC	12.0V	1.25A	100mA	83%	0.2%	0.2%	BXA15-12S12
9-18VDC	15.0V	1.0A	100mA	85%	0.2%	0.2%	BXA15-12S15
9-18VDC	±12.0V	±0.625A	100mA	83%	0.4%	0.4%	BXA15-12D12
18-36VDC	5.0V	3.0A	60mA	80%	0.2%	0.2%	BXA15-24S05
18-36VDC	12.0V	1.25A	60mA	83%	0.2%	0.2%	BXA15-24S12
18-36VDC	15.0V	1.0A	60mA	85%	0.2%	0.2%	BXA15-24S15
18-36VDC	±12.0V	±0.625A	60mA	83%	0.4%	0.4%	BXA15-24D12
18-36VDC	±15.0V	±0.5A	60mA	85%	0.4%	0.4%	BXA15-24D15
36-75VDC	5.0V	3.0A	35mA	80%	0.2%	0.2%	BXA15-48S05
36-75VDC	12.0V	1.25A	35mA	84%	0.2%	0.2%	BXA15-48S12
36-75VDC	15.0V	1.0A	35mA	86%	0.2%	0.2%	BXA15-48S15
36-75VDC	±5.0V	±1.5A	35mA	80%	0.4%	0.4%	BXA15-48D05
36-75VDC	±12.0V	±0.625A	35mA	83%	0.4%	0.4%	BXA15-48D12
36-75VDC	±15.0V	±0.5A	35mA	85%	0.4%	0.4%	BXA15-48D15

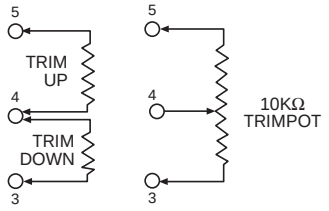
Notes

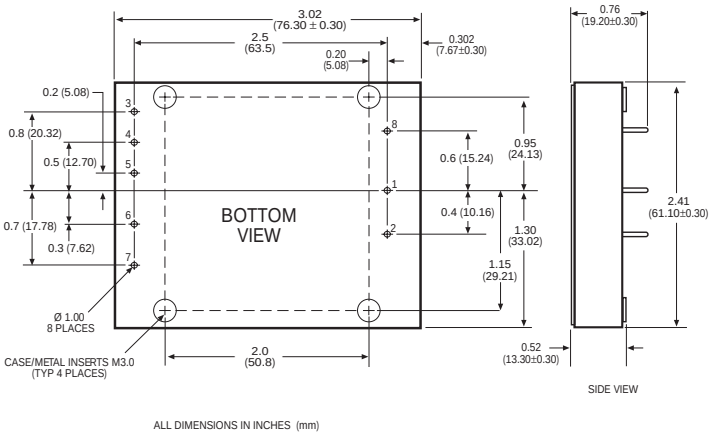
1 Nominal, at no load.
2 Low line to high line.
3 Full load to no-load. For duals, the value stated is for balanced loads.
4 An optional internal filter is available, which will meet VDE0871 level A, VDE0878 level A and EN55022 level A. Add the suffix '-F' to the model number, e.g. **BXA15-48S12- F.**
Contact your local distributor or the Artesyn Technologies web-site for a copy of BXA15 and BXA30 Design Note 100.
5 For conducted noise operation of the BXA30 to VDE0871, VDE0878 and EN55022 level B, see BXA15 and BXA30 Design Note 100.
6 Reverse voltage protection can be implemented by putting a slow blow fuse on the positive input rail. Rate the fuse for 48VDC at 1.5A; 24 VDC at 3A; 12VDC at 6A.
7 The maximum operating ambient temperature, without derating depends on internal power dissipation and hence efficiency and cooling method. BXA15 and BXA30 Design Note 100 provides detailed thermal calculations and design-in hints.
8 This result was obtained assuming an activation energy: Ea = -0.7 eV and an acceleration factor of AF = 15, between the mean test temperature of 58°C and the normal 25°C ambient temperature.
9 This product is only for inclusion by professional installers within other equipment and must not be operated as a stand alone product.

PIN CONNECTIONS		
PIN NUMBER	SINGLE OUTPUT	DUAL OUTPUT
1	+ Vin	+ Vin
2	– Vin	– Vin
3	+ Sense	+ Vout
4	Trim	Common
5	– Sense	– Vout
6	+ Vout	No Pin
7	– Vout	No Pin
8	Remote ON/OFF	Remote ON/OFF

EXTERNAL OUTPUT TRIMMING

Single output models can be externally trimmed by ±10% using either method shown below.





ALL DIMENSIONS IN INCHES (mm)

International Safety Standard Approvals

VDE0805/EN60950/IEC950 File No. 14501-3336-7006, Licence No. 6231

UL1950 File No. E174104

CSA C22.2-234 No. 950 File No. LR41062C