

BXA30 Series

Single and dual output

- 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 immunity compliant
- Fixed frequency operation at 350kHz
- MTBF in excess of 7,005,000 hours (demonstrated)
- Basic insulation system



2 YEAR WARRANTY

The BXA30 series, comprising 9 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 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 models are particularly suited to industrial, mobile telecom and test equipment applications, featuring EN61000-4-2, -3, -4, -5 and -6 immunity compliant. Other features include low output ripple, overvoltage protection, continuous short circuit protection, remote enable and remote sense.

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

SPECIFICATIONS

OUTPUT SPECIFICATIONS

Voltage adjustability	Singles	±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)	3.3V	60mV pk-pk
	5.0V	50mV pk-pk
	All others	100mV pk-pk
	All models	20mV rms
Temperature coefficient		±0.02%/°C
Overvoltage protection	Transient	135% Vout
Short circuit protection	Singles	Continuous
	Duals (single short)	(See BXA15/30 Design Note 100)
	Duals (dual short)	Continuous
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	9 to 18VDC
	48Vin nominal	36 to 75VDC
Reverse voltage protection (See Note 7)		Yes
Max. input rise and fall time	48V	5V/ms ETS300-132
Remote ON/OFF Logic compatibility		CMOS/TTL
ON		Open circuit
OFF		<1VDC

EMC CHARACTERISTICS

Conducted emissions	EN55022, FCC part 15 (Note 4)	Level A
	EN55022, FCC part 15 (Note 5)	Level B
	VDE0878 (Note 4) (48V)	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	1500VDC
Basic insulation	input/case, 48V models	1500VDC
Switching frequency	Fixed	350kHz
Approvals and standards (See Note 12)		VDE0805, EN60950 IEC950, UL1950 CSA C22.2 No. 950
Case material		Aluminum substrate with plastic case
Material flammability		UL94V-0
Weight		120g (4.24oz)
MTBF (See Note 9)	Demonstrated @ 25°C	7,005,000 hours

ENVIRONMENTAL SPECIFICATIONS

Thermal performance	Baseplate operating temperature, (See Notes 6, 8)	-25°C to +100°C
	Non-operating	-55°C to +100°C
Thermal impedance	Free air convection, baseplate to air	6.5°C/W
	With heatsink (See Note 8)	5.2°C/W

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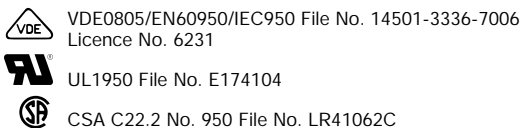
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INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT (MAX.)	INPUT CURRENT ⁽¹⁾	TYPICAL EFFICIENCY	REGULATION		MODEL NUMBER ^(4,6)
					LINE ⁽²⁾	LOAD ⁽³⁾	
9-18VDC	5.0V	5.0A	100mA	80%	±0.2%	±0.2%	BXA30-12S05
36-75VDC	3.3V	6.0A	30mA	75%	±0.2%	±0.2%	BXA30-48S3V3
36-75VDC	3.3V	8.0A	30mA	81%	±0.2%	±0.2%	BXA30-48S3V3/8 ⁽¹¹⁾
36-75VDC	5.0V	5.0A	30mA	80%	±0.4%	±1.0%	BXA30-48S05
36-75VDC	12.0V	2.5A	30mA	85%	±0.2%	±0.2%	BXA30-48S12
36-75VDC	15.0V	2.0A	30mA	87%	±0.2%	±0.2%	BXA30-48S15
36-75VDC	±5.0V	±2.5A	30mA	80%	±0.4%	±0.4%	BXA30-48D05
36-75VDC	±12.0V	±1.25A	30mA	84%	±0.4%	±0.4%	BXA30-48D12
36-75VDC	±15.0V	±1.0A	30mA	86%	±0.4%	±0.4%	BXA30-48D15

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. **BXA30-48S12-F**. See 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 For extended operating temperature, include the heatsink option, '-1' in the model number. Max. heatsink height is 12.5mm, e.g. **BXA30-48S15-1**
- 7 Reverse voltage protection can be implemented by putting a slow blow fuse on the negative input rail. Rate the fuse for 48VDC at 1.5A and 12VDC at 6A.
- 8 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 details.
- 9 Test results to-date are 1,590,000 hours @ 46°C. The MTBF figure shown includes a calculated acceleration factor of 4.1 based on an activation energy of -0.55 eV.
- 10 Visit the Artesyn website to download a copy of Design Note 100.
- 11 This model has the same electrical pin-out and pin pitch spacings as the drawing on the following page. Dimensions are 76.2 x 76.2 x 14.2mm, ±0.3mm.
- 12 This product is only for inclusion by professional installers within other equipment and must not be operated as a stand alone product.
- 13 If remote sense is not used, connect +sense to +vout and -sense to -vout.

International Safety Standard Approvals



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PIN CONNECTIONS		
PIN NUMBER	SINGLE OUTPUT	DUAL OUTPUT
1	+ Vin	+ Vin
2	- Vin	- Vin
3	+ Sense (13)	+ 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 $\pm 10\%$ using either method shown.

