

[2 YEAR WARRANTY]

CE (LVD) (48V models only)

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 1,200,000 hours (demonstrated)

The BXA30 series, comprising 17 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, featuring EN61000-4-2, -3, -4, -5 and -6 immunity compliant. 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	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	Indefinite
	Duals (single short)	See BXA15/30 Design Note 100
	Duals (dual short)	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	9 to 18VDC
	24Vin nominal	18 to 36VDC
	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 Open circuit <1VDC

EMC CHARACTERISTICS		
Conducted emissions	EN55022, FCC part 15, Note 4	Level A
	EN55022, FCC part 15, Note 5	Level B
Radiated emissions	VDE0878, See Note 4 (48V)	Level A
	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
	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	Demonstrated @ 58°C	1,214,000 hours
	Calculated @ 25°C,	18,200,000 hours
	See Note 10	
ENVIRONMENTAL SPECIFICATIONS		
Thermal performance	Baseplate operating temperature, See Notes 6 and 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

30 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	5.0A	100mA	80%	±0.2%	±0.2%	BXA30-12S05
9-18VDC	12.0V	2.5A	100mA	84%	±0.2%	±0.2%	BXA30-12S12
9-18VDC	15.0V	2.0A	100mA	86%	±0.2%	±0.2%	BXA30-12S15
9-18VDC	±12.0V	±1.25A	100mA	84%	±0.4%	±0.4%	BXA30-12D12
18-36VDC	5.0V	5.0A	60mA	80%	±0.2%	±0.2%	BXA30-24S05
18-36VDC	12.0V	2.5A	60mA	84%	±0.2%	±0.2%	BXA30-24S12
18-36VDC	15.0V	2.0A	60mA	86%	±0.2%	±0.2%	BXA30-24S15
18-36VDC	±12.0V	±1.25A	60mA	84%	0±.4%	±0.4%	BXA30-24D12
18-36VDC	±15.0V	±1.0A	60mA	86%	±0.4%	±0.4%	BXA30-24D15
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

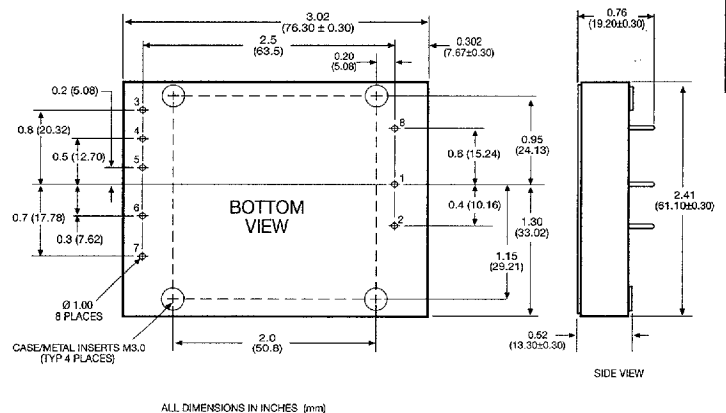
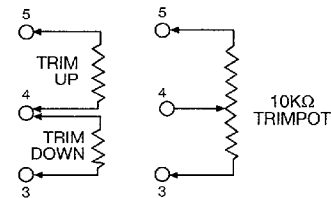
- 1 Nominal, at no load.
- 2 Low line to high line.
- 3 Full load to no-load. For duals, the value stated is for balanced loads.
- 4 An optional internal filter is available, which will meet VDE0871 level A, VDE0878 level A and EN55022 level A. Add the suffix '-F' to the model number, e.g. **BXA30-48S12-F**. 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. Maximum 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 positive input rail. Rate the fuse for 48VDC at 1.5A; 24VDC at 3A; 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 hints.
- 9 Contact your local distributor or Artesyn Technologies for BXA15 and BXA30 Design Note 100.
- 10 This result was obtained assuming an activation energy: $E_a = -0.7$ eV and an acceleration factor of $AF = 15$, between the mean test temperature of 58°C and the normal 25°C ambient temperature.
- 11 This model has the same electrical pin-out and pin pitch spacings as drawing opposite. 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.

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.



International Safety Standard Approvals

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

UL UL1950 File No. E174104

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