ARTESYN TECHNOLOGIES

BXA10 SERIES

Single and dual output

- **1 x 2 x 0.395 inch package with stand-offs**
- **13.3 Watts/in³ power density**
- **CISPR22 and EN55022 conducted emission level A**
- **UL, CSA and VDE approvals (48V input only)**
- **Continuous short circuit protection**
- **Optional remote ON/OFF**

The BXA10 series of DC/DC converters, comprising 15 different models, is designed for a wide range of applications including communications, industrial systems and mobile battery powered systems. Packing up to 10 Watts of power into a 2 x 1 x 0.395 inch package, with efficiencies as high as 85%, the BXA10 has wide input ranges of 9-18VDC, 18-36VDC, 18-75VDC and 36-75VDC, and is available in single and dual output versions. Isolation of 1500VDC, approval to EN60950 2nd edition, coupled with reduced conducted noise for simplified compliance to FCC Part 15 level A and EN55022 level A, make the BXA10 ideal for telecommunications and distributed power applications. Other features include overvoltage protection, continuous short circuit protection with automatic recovery and remote on/off, all of which minimize the need for external circuitry and make the BXA10 a recommended component in distributed power systems.

[2 YEAR WARRANTY]

SPECIFICATION

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

OUTPUT SPECIFICATIONS		
Line regulation	LL to HL, single output LL to HL, dual output	±0.2% ±0.2%
Load regulation	10% to 100% FL (See Note 4)	±0.5%
Minimum load	24 and 48V models 12V models	10% full load No minimum load
Overshoot	At start-up	10% max.
Ripple and noise (See Note 2)	5Hz to 20MHz	100mV pk-pk, max. 20mV rms
Transient response	25% load step	±2.0% max. dev., 250µs recovery to within ±1.0%
Temperature coefficient		±0.02%/°C max.
Overvoltage protection	Clamp type	See table
Short circuit protection	Hiccup	Continuous automatic recovery
INPUT SPECIFICATIONS		
Input voltage range	12VDC (See Note 6) 24VDC 48VDC (S05) 48VDC (S12, S15)	9 to 18VDC 18 to 36VDC 18 to 75VDC 36 to 75VDC
Input filter		Pi type
Start up surge current	Resistive load	1.5A max.
Remote ON/OFF ON (See Note 3) OFF OFF idle current		Open collector compatible High impedance >400kΩ Low impedance <1.0kΩ <1.5mA
Start-up time		1.6s, max.

International Safety Standard Approvals

VDE0805/EN60950/IEC950 File No. 10401-3336-1094
Licence No. 6298 and 6299

UL1950 File No. E136005

CSA C22.2 No. 950 File No. LR41062C

EMC CHARACTERISTICS		
Conducted emissions	EN55022, FCC, See Note 8	Level A
ESD air	EN61000-4-2, level 2	Perf. criteria 1
ESD contact	EN61000-4-2, level 3	Perf. criteria 1
Surge	EN61000-4-5, level 2	Perf. criteria 1
Fast transients	EN61000-4-4, level 2	Perf. criteria 1
Radiated immunity	EN61000-4-3, level 3	Perf. criteria 1
Conducted immunity	EN61000-4-6, level 3	Perf. criteria 1
GENERAL SPECIFICATIONS		
Efficiency	See table	81% min.
Isolation voltage	Input/output/case	1500VDC
Switching frequency	Fixed	400kHz
Approvals and standards	Safety	VDE0805, EN60950, IEC950 UL1950, CSA C22.2 No. 950
Case material		Black coated, six-sided metal case
Material flammability		UL94V-0
Weight		20g (0.71oz)
MTBF	MIL-HDBK-217F Bellcore	519,000 hours >2 million hours
ENVIRONMENTAL SPECIFICATIONS		
Thermal performance	Operating ambient (See derating curve) Non-operating amb. Case Derating Cooling	-25°C to +71°C -55°C to +125°C +110°C max. See derating curve Free air convection cooled
Relative humidity	Non-condensing	5% to 95% RH
Altitude	Operating Non operating	10,000 feet max. 40,000 feet max.
Vibration	5Hz to 500Hz	2.5G rms (approx.)

8 to 10 Watt
Wide input DC/DC converters

INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	INPUT CURRENT (1)	TYPICAL EFFICIENCY	OVP	REGULATION (Typ.)		MODEL NUMBER (3)
						LINE	LOAD	
9-18VDC	5.0V	2.0A	1.1A	81%	6.2VDC	±0.2%	±0.5%	BXA10-12S05
9-18VDC	12.0V	0.83A	1.05A	84%	15VDC	±0.2%	±0.5%	BXA10-12S12
9-18VDC	15.0V	0.67A	1.05A	85%	18VDC	±0.2%	±0.5%	BXA10-12S15
9-18VDC	±5.0V	±1.0A	1.05A	81%	12VDC	±0.2%	±0.5%	BXA10-12D05
9-18VDC	±12.0V	±0.416A	1.05A	86%	30VDC	±0.2%	±0.5%	BXA10-12D12
9-18VDC	±15.0V	±0.333A	1.05A	86%	36VDC	±0.2%	±0.5%	BXA10-12D15
18-36VDC	12.0V	0.83A	0.51A	84%	15VDC	±0.2%	±0.5%	BXA10-24S12
18-36VDC	15.0V	0.67A	0.51A	84%	18VDC	±0.2%	±0.5%	BXA10-24S15
18-75VDC	5.0V	2.0A	0.26A	82%	6.8VDC	±0.2%	±0.5%	BXA10-48S05
18-75VDC	12.0V	0.83A	0.25A	82%	15VDC	±0.2%	±0.5%	BXA10-48S12W
36-75VDC	12.0V	0.83A	0.25A	85%	15VDC	±0.2%	±0.5%	BXA10-48S12
36-75VDC	15.0V	0.67A	0.25A	85%	18VDC	±0.2%	±0.5%	BXA10-48S15
18-75VDC	±5.0V	±1.0A	0.26A	82%	12VDC	±0.2%	±0.5%	BXA10-48D05
18-75VDC	±12.0V	±0.416A	0.25A	84%	30VDC	±0.2%	±0.5%	BXA10-48D12
18-75VDC	±15.0V	±0.333A	0.25A	84%	36VDC	±0.2%	0.5%	BXA10-48D15

Notes

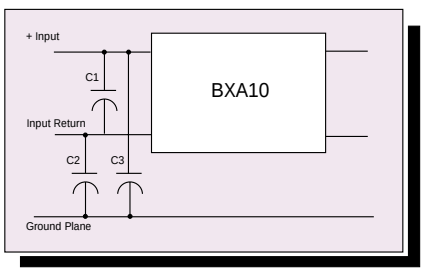
1 At nominal input and output voltage and maximum load.
2 Output ripple can be reduced to <50mV with the addition of a 33µF, 25V, AVX-TPS (or equivalent) tantalum capacitor. Consult factory for further information.
3 For units with optional remote ON/OFF, please add the suffix '-S' to the model number: e.g. **BXA10-48S05-S.** Maximum open pin voltage 14VDC.
4 Assumes balanced loads on dual output models.
5 High impedance source/long input power cable may necessitate the introduction of an input filter.
6 Typical 9-18VDC model start-up voltage is 9V. Maximum start-up voltage is 9.5V (>0°C) or 9.7V (<0°C).
7 It is recommended that an IEC127, 250V, fast blow fuse is used rated at 4A for nominal 12V models; 3A for nominal 24V models and 2A for 48V models.
8 To achieve compliance to EN55022-A and FCC part 15 Class A, external capacitors of the following values are needed:

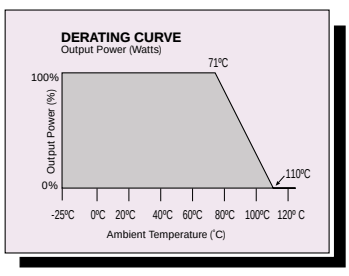
Model	C1*	C2	C3
BXA10-12xxx	10µF film, 25V	0.22µF film	0.22µF film
BXA10-24xxx	10µF film, 50V	0.22µF film	0.22µF film
BXA10-48xxx	10µF film, 100V	0.22µF film	0.22µF film

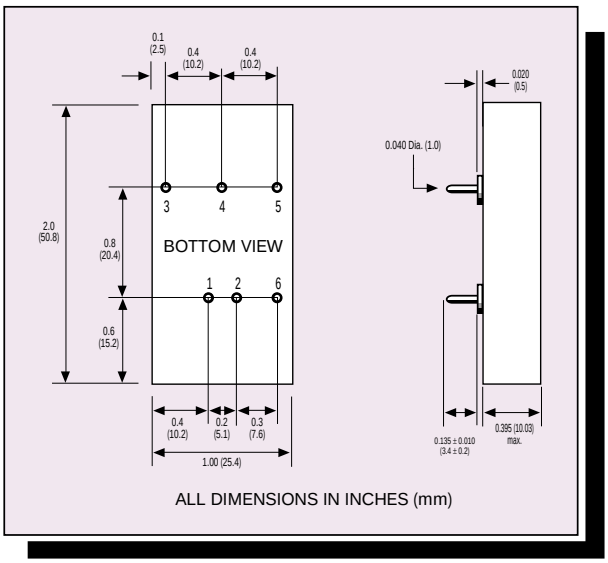
(C2, C3 voltage rating application dependent)
* Siemens P.N. B32512-J1106-J or equivalent.

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

* Optional remote ON/OFF pin. Add Suffix '-S' to the model number, Note 3.







Mechanical notes

A Recommended PCB hole diameter is 0.052 inches (1.32mm).
B All pins are in true position within 0.010 inches (0.25mm).
C Tolerance (inches): .XX = ±0.02
XXX = ±0.005