

BXA10 Series

Single and dual output

Total Power: 8 - 10W
Input Voltage: 9 - 18VDC
18 - 75VDC
of Outputs: Single

Special Features

- 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
- Available RoHS compliant
- 2 year warranty

Safety

VDE0805/EN60950/IEC950
File No. 10401-3336-0084
Licence No. 1812

UL1950 File No. E174104

CSA C22.2 No. 950
File No. LR41062C



Rev.03.07.07
bxa10
1 of 4

The BXA10 series of dc-dc converters, comprising 7 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 Vdc to 18 Vdc and 18 Vdc to 75 Vdc, and is available in single and dual output versions. Isolation of 1500 Vdc, 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.



Specifications

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 | 48 V models 12 V models | 10% full load No minimum load |
| Overshoot | At start-up | 10% max. |
| Ripple and noise (See Note 2) | 5 Hz to 20 MHz | 100 mV pk-pk, max. 20 mV rms |
| Transient response | 25% load step | ±2.0% max. dev., 250 μs 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 | 12 Vdc (See Note 6) 48 Vdc | 9-18 Vdc 18-75 Vdc |
| Input filter | | Pi type |
| Start up surge current | Resistive load | 1.5 A max. |
| Remote ON/OFF ON (See Note 3) OFF OFF idle current | Open collector compatible High impedance >400 kΩ Low impedance <1.0 kΩ | <1.5 mA |
| Start-up time | | 1.6 s, max. |

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 |
| Isolation voltage | Input/output Input or output to case | 1500 Vdc 1000 Vdc |
| Switching frequency | Fixed | 400 kHz |
| 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 | | 20 g (0.71 oz) |
| 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 | 5-500 MHz | 2.5 G rms (approx.) |

Specifications Contd.

| INPUT VOLTAGE | OUTPUT VOLTAGE | OUTPUT CURRENT | INPUT CURRENT (1) | TYPICAL EFFICIENCY | OVP | REGULATION (Typ.) | | MODEL NUMBER (3,9,10) |
|---------------|----------------|----------------|-------------------|--------------------|---------|-------------------|-------|-----------------------|
| | | | | | | LINE | LOAD | |
| 9-18 Vdc | 5 V | 2 A | 1.1 A | 81% | 6.2 Vdc | ±0.2% | ±0.5% | BXA10-12S05J |
| 9-18 Vdc | 15 V | 0.67 A | 1.05 A | 85% | 18 Vdc | ±0.2% | ±0.5% | BXA10-12S15J |
| 9-18 Vdc | ±5 V | ±1 A | 1.05 A | 81% | 12 Vdc | ±0.2% | ±0.5% | BXA10-12D05J |
| 18-75 Vdc | 5 V | 2 A | 0.26 A | 82% | 6.8 Vdc | ±0.2% | ±0.5% | BXA10-48S05J |
| 18-75 Vdc | ±5 V | ±1 A | 0.26 A | 82% | 12 Vdc | ±0.2% | ±0.5% | BXA10-48D05J |
| 18-75 Vdc | ±12 V | ±0.416 A | 0.25 A | 84% | 30 Vdc | ±0.2% | ±0.5% | BXA10-48D12J |
| 18-75 Vdc | ±15 V | ±0.333 A | 0.25 A | 84% | 36 Vdc | ±0.2% | 0.5% | BXA10-48D15J |

Notes

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

| Model | C1* | C2 | C3 |
|--------------|-------------------|--------------|--------------|
| BXA10-12xxxx | 10 µF film, 25 V | 0.22 µF film | 0.22 µF film |
| BXA10-48xxxx | 10 µF film, 100 V | 0.22 µF film | 0.22 µF film |

(C2, C3 voltage rating application dependent)

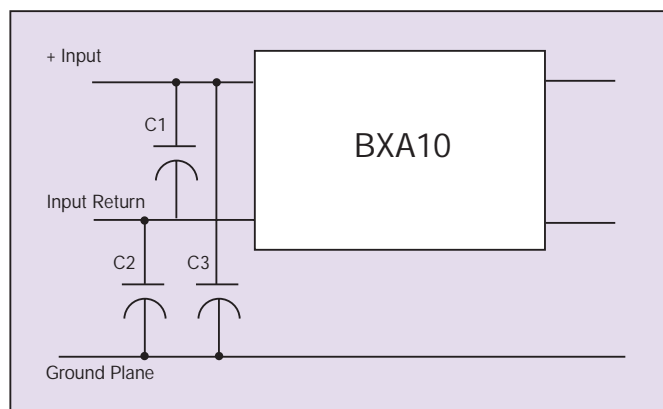
* Siemens P.N. B32512-J1106-J or equivalent.

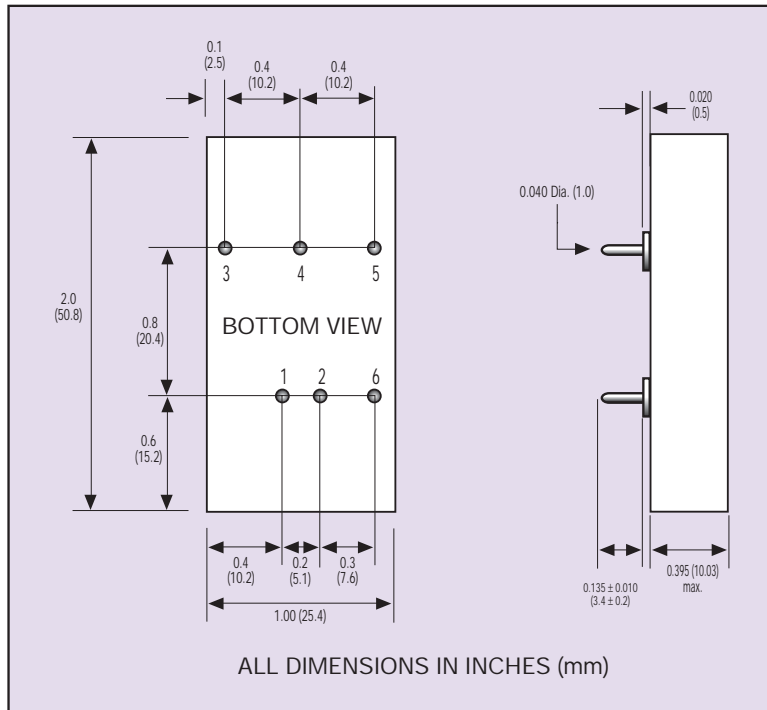
- The 'J' suffix indicates that these parts are Pb-free (RoHS 6/6) compliant. TSE RoHS 5/6 (non Pb-free) compliant versions may be available on special request, please contact your local sales representative for details.
- NOTICE: Some models do not support all options. Please contact your local Artesyn representative or use the on-line model number search tool at <http://www.artesyn.com/powergroup/products.htm> to find a suitable alternative.

Please check with your local representative or the Model Search Tool for the latest available product codes.

| 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 |

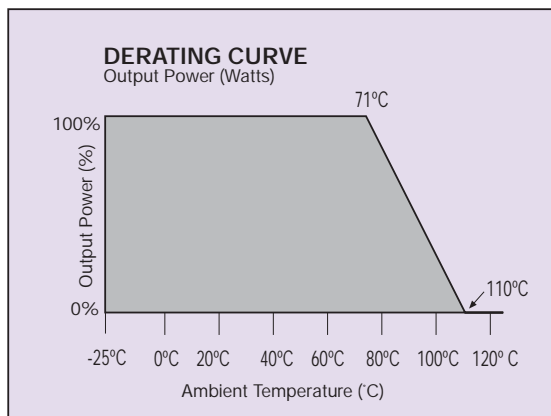
* Optional remote ON/OFF pin. Add Suffix '-S' to the model number (Note 3).





Mechanical Notes

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



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