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BXA3 Series

Single and dual output

DC/DC CONVERTERS

3W Wide Input DC/DC Converters

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- 3 Watts in DIL Package
- 9 models including 3.3VDC output
- Wide input ranges 9-18V, 18-36V, 36-75V
- EN55022 conducted emissions level A (optional)
- Continuous short circuit protection
- Operating temperature range -25°C to +105°C
- Input voltage range to ETS300-132-2
- UL, VDE and CSA safety approvals



2 YEAR WARRANTY

The BXA3 Series of DC/DC converters is designed to offer the optimum cost/benefit power solution for a wide variety of applications including public and private telecommunications, industrial systems and process and test equipment. The series consists of 9 models with input voltages of 9-18VDC, 18-36VDC and 36-75VDC, and offers standard output voltages of 3.3V, 5V, 12V and 15V in single and dual output configurations. Continuous short circuit protection, overvoltage protection, 60mV output ripple and EN55022 level A conducted noise compliance minimize design-in time, cost and eliminate the need for external components.

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

SPECIFICATIONS

OUTPUT SPECIFICATIONS

| | | |
|------------------------------------|-----------------------|--------------------------------|
| Voltage accuracy | | ±1.0% |
| Line regulation | LL to HL, all outputs | ±2.5% |
| Load regulation | Full load to no load | ±2.5% |
| Ripple and noise (5Hz to 20MHz) | +5V output | 60mV pk-pk, max., 15mV rms |
| | All others | 100mV pk-pk, max., 15mV rms |
| Temperature coefficient | | ±0.02%/°C, max. |
| Over voltage protection | Clamp diode | 135% Vout |
| Short circuit protection | | Continuous automatic recovery |

INPUT SPECIFICATIONS

| | | |
|-------------------------------|-------------------------------------|-------------|
| Input voltage range | 12VDC | 9 to 18VDC |
| | 24VDC | 18 to 36VDC |
| | 48VDC | 36 to 75VDC |
| Input filter | Suffix '-F' (See Note 5) | Pi type |
| Reverse voltage protection | (See Note 7) | Yes |
| Max. input rise and fall time | Output remains within specification | 5V/ms |

EMC CHARACTERISTICS

| | | |
|---------------------|---|---------|
| Conducted emissions | EN55022, FCC part 15 Suffix '-F' versions (See Notes 5 and 6) | Level A |
|---------------------|---|---------|

GENERAL SPECIFICATIONS

| | | |
|-------------------------|---|------------------------------|
| Efficiency | | See table |
| Isolation voltage | Input/output | 500VDC |
| Switching frequency | Variable | 200kHz to 1MHz |
| Approvals and standards | VDE0805, EN60950, IEC950 UL1950, CSA C22.2 No. 950 | |
| Case material | | Non-conductive black plastic |
| Material flammability | | UL94V-0 min. |
| Weight | | 15g (0.53oz) |
| MTBF | MIL-HDBK-217F | 800,000 hours |

ENVIRONMENTAL SPECIFICATIONS

| | | |
|---------------------|---|----------------------------|
| Thermal performance | Operating ambient (See derating curve) | -25°C to +105°C |
| | Non-operating amb | -40°C to +105°C |
| | Cooling | Free air convection cooled |
| Relative humidity | Non-condensing | 5% to 95% RH |
| Altitude | Operating | 10,000 feet max. |
| | Non operating | 40,000 feet max. |
| Vibration | 5Hz to 500Hz | 2.5G rms (approx.) |

International Safety Standard Approvals

VDE0805/EN60950/IEC950 Licence No. 5856

UL1950 File No. E136005

CSA C22.2 No. 950 File No. LR41062C

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For the most current data and application support visit www.artesyn.com/powergroup/products.htm

| INPUT VOLTAGE | OUTPUT VOLTAGE | OUTPUT CURRENT (1) | INPUT CURRENT (2) | TYPICAL EFFICIENCY | REGULATION | | MODEL NUMBER (5,8) |
|------------------|-------------------|-----------------------|----------------------|-----------------------|------------|----------|-----------------------|
| | | | | | LINE (3) | LOAD (4) | |
| 9-18VDC | 3.3V | 600mA | 245mA | 68% | ±2.5% | ±2.5% | BXA3-12S3V3 |
| 9-18VDC | 15.0V | 200mA | 335mA | 75% | ±2.5% | ±2.5% | BXA3-12S15 |
| 18-36VDC | 3.3V | 600mA | 122mA | 68% | ±2.5% | ±2.5% | BXA3-24S3V3 |
| 18-36VDC | 5.0V | 500mA | 140mA | 76% | ±2.5% | ±2.5% | BXA3-24S05 |
| 18-36VDC | ±5.0V | ±250mA | 140mA | 76% | ±2.5% | ±2.5% | BXA3-24D05 |
| 36-75VDC | 3.3V | 600mA | 61mA | 68% | ±2.5% | ±2.5% | BXA3-48S3V3 |
| 36-75VDC | 5.0V | 500mA | 69mA | 76% | ±2.5% | ±2.5% | BXA3-48S05 |
| 36-75VDC | 12.0V | 250mA | 83mA | 76% | ±2.5% | ±2.5% | BXA3-48S12 |
| 36-75VDC | 15.0V | 200mA | 83mA | 76% | ±2.5% | ±2.5% | BXA3-48S15 |

Notes

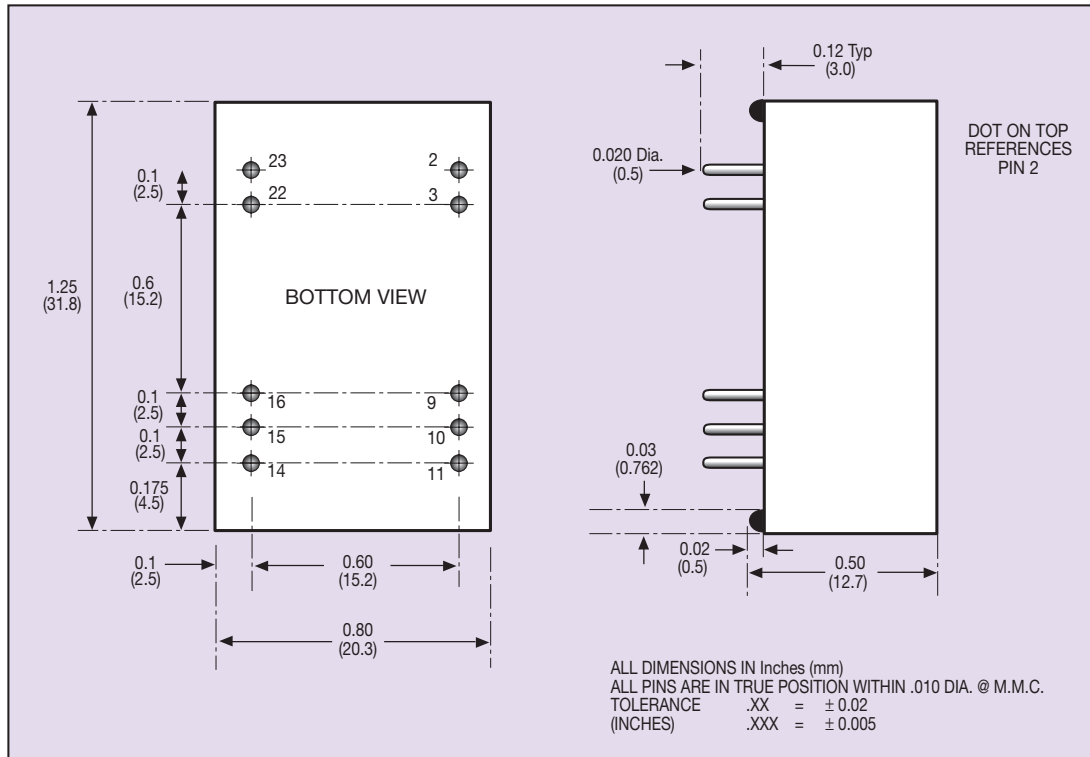
- 1 Maximum.
- 2 Maximum figure at full load (nominal).
- 3 Low line to high line.
- 4 Full load to no load.
- 5 An optional internal filter is available. When the filter is added, the BXA3 will meet VDE0871-A, VDE0878-A and EN55022-A. Add the suffix '-F' to the model number, e.g. **BXA3-12S15-F**.
- 6 Conducted noise filtering to EN55022 level B may be accomplished by putting the following capacitors across the input pins.

| | |
|-------|---------------------------------|
| 12VDC | 5µF ceramic X7R dielectric type |
| 24VDC | 3µF ceramic X7R dielectric type |
| 48VDC | 1µF ceramic X7R dielectric type |
- 7 Reverse voltage protection can be implemented by putting a fast blow fuse on the positive input rail. Rate the fuse for 250mA at 48VDC input, 500mA at 24VDC input and 1000mA at 12VDC input.
- 8 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.

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| PIN CONNECTIONS | | |
|-----------------|---------------|-------------|
| PIN NUMBER | SINGLE OUTPUT | DUAL OUTPUT |
| 2 | -Vin | -Vin |
| 3 | -Vin | -Vin |
| 22 | +Vin | +Vin |
| 23 | +Vin | +Vin |
| 9 | No Pin | Common |
| 10 | No Pin | No Pin |
| 11 | No Connection | -Vout |
| 14 | +Vout | +Vout |
| 15 | No Pin | No Pin |
| 16 | -Vout | Common |

