

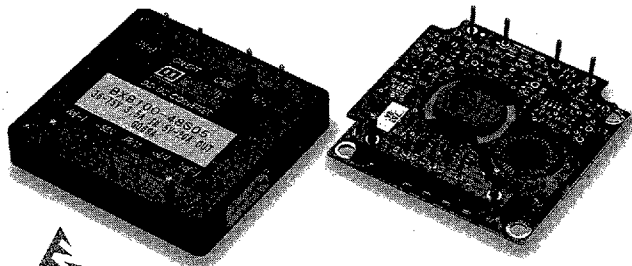
# BXB100 SERIES

## Single output

Recommended for new design-ins

- Industry standard footprint
- High power density (36.5W/in<sup>3</sup>)
- MTBF > 2.7 million hours (Bellcore 332)
- High efficiency up to 90%
- Metal baseplate
- Adjustable output voltage
- Fixed frequency (400kHz)
- High isolation (1500 VDC)
- Separate case ground pin

The BXB100 Series are high power density DC/DC converters packaged in the industry standard footprint (2.40" x 2.28" x 0.50") to give designers optimum choices when specifying for both new and replacement designs. Suitable for a wide range of applications in nearly any industry, the BXB100 was particularly designed with Communication and Distributed Power applications in mind. Using Bellcore standards, the



**2 YEAR WARRANTY**

**CE** (LVD)

MTBF is greater than 2,774,780 hours. Aluminum baseplate technology with four threaded inserts makes heatsink attachment and optimum thermal management easy. The BXB100 Series meet UL, CSA and VDE EN60950 agency standards.

### SPECIFICATION

ALL SPECIFICATIONS ARE TYPICAL AT NOMINAL INPUT, FULL LOAD AND 25°C UNLESS OTHERWISE STATED

OUTPUT SPECIFICATIONS			
Voltage adjustability	3.3V 5V 12V and 15V	90% to 115% 90% to 110% 75% to 110%	
Set point accuracy		±1.0%	
Line regulation	Low line to high line	±0.01%	
Load regulation	Full load to min load	±0.05%	
Min. load required		2.0% to max.	
Overshoot	At turn-on and turn off	2.0% max. into Io min	
Undershoot		None	
Ripple and noise (5Hz to 20MHz) See Note 1	3.3V and 5V 12V and 15V	100mV pk-pk, 35mV rms 150mV pk-pk, 50mV rms	
Temperature coefficient		±0.01%/°C	
Transient response	See Note 2	±2.0% max. deviation 300µs recovery to within ±1.0%	
Remote sense		0.5VDC transmission line drop compensation	
INPUT SPECIFICATIONS			
Input voltage range	48Vin nominal	36-75VDC	
Input current	Min. load	50mA max.	
Input current (max) See Note 4		4 amps max. @ Io max. and Vin = 0 to 75V	
Input reflected ripple	See Note 7	20mA pk-pk	
Remote ON/OFF Logic compatibility ON OFF		Ref. to -input CMOS/TTL 3.5VDC or Open circuit min. 0.8VDC max.	

ELECTROMAGNETIC COMPATIBILITY SPECIFICATIONS			
Conducted noise See Note 3	Bellcore 1089 FCC part 15 EN55022, CISPR22	Level A Level A Level A	
Electrostatic discharge Input transients - bursts		IEC801-2 IEC801-4	
GENERAL SPECIFICATIONS			
Efficiency	3.3V 5V 12V 15V	81% typical 85% typical 88% typical 90% typical	
Isolation voltage	Input/case Input/output Output/case	1000VDC 1500VDC 1000VDC	
Switching frequency	Fixed	±10%	400kHz
Approvals and safety standards (pending)		EN60950, UL1950 CSA22.2-234/950	
Case material		Plastic	
Material flammability		UL94V-0	
Weight		114g (4.02oz)	
MTBF	Bellcore 332 @ 40°C case 80% full load	> 2.7 million hours	
ENVIRONMENTAL SPECIFICATIONS			
Thermal performance	Operating case temp. Non-operating	-40°C to +100°C -50°C to +110°C	
Altitude	Operating: Non-operating:	10,000 feet max. 40,000 feet max.	
Vibration	5Hz to 500Hz	2.4G rms (approx.)	

## 66 to 100 Watt Wide input DC/DC converters

OUTPUT POWER (MAX)	INPUT VOLTAGE	OVP	OUTPUT VOLTAGE	OUTPUT CURRENT (MIN)	OUTPUT CURRENT (MAX)	EFFICIENCY (MAX)	REGULATION		MODEL NUMBER
							LINE	LOAD	
66W	36-75VDC	4.0VDC	3.3V	300mA	20A	82%	0.01%	0.05%	BXB100-48S3V3
100W	36-75VDC	7.0VDC	5V	300mA	20A	86%	0.01%	0.05%	BXB100-48S05
100W	36-75VDC	14.5VDC	12V	300mA	8.33A	89%	0.01%	0.05%	BXB100-48S12
100W	36-75VDC	17.5VDC	15V	300mA	6.67A	89%	0.01%	0.05%	BXB100-48S15

### Notes

- 1 Measured with 10uF tantalum capacitor and 1uF ceramic capacitor across output.
- 2  $di/dt = 1A/1\mu S$ ,  $V_{in} = 48VDC$ ,  $T_c = 25^\circ C$ ; load change = 0.5 to max to 0.75 to max. and 0.75 to max. to 0.5 to max.
- 3 Units should be characterized within systems. External components required.
- 4 Input fusing is recommended based on surge current and maximum input current.
- 5 This product is only for inclusion by professional installers within other equipment and must not be operated as a stand alone product.
- 6 Simulated source impedance of 12 $\mu H$ .

### PROTECTION

Short circuit	Continuous, automatic recovery
Input surge protection	100VDC for one second max., non-repetitive
Overvoltage protection	Latching (must recycle input power)
Undervoltage protection	Non-latching
Thermal protection	110°C baseplate, automatic recovery

### PIN CONNECTIONS

PIN NUMBER	FUNCTION
1	-Vin
2	Case
3	Remote ON/OFF
4	+Vin
5	+Vout
6	+Sense
7	Trim
8	-Sense
9	-Vout

### TELECOM SPECIFICATIONS

Embedded DC/DC converters	Bellcore 1003
Central office interface A	prETS300-132

### EXTERNAL OUTPUT TRIMMING

Output can be externally trimmed by using either method shown below.

