

EXB100 Series

Single output

DC/DC CONVERTERS

54-100W DC/DC Isolated Converters

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- Ultra wide trim range, 60% to 110% (1.08V to 5.5V)
- High efficiency, 91.5% @ 5V, 90.5% @ 3.3V, 87.5% @ 1.8V
- Basic insulation (input to output)
- Industry standard half-brick pin-out
- No minimum load
- Over-voltage and over-temperature protection
- Remote ON/OFF

The EXB100 series of 100W single output isolated DC/DC converters are specially designed to meet the power needs of low voltage silicon. Housed in an open-frame package with standard footprint, these latest generation converters offer efficiencies as high as 91.5% (typical on 5V at 20A). The series comprises three 48V input models with 5V, 3.3V and 1.8V outputs. All models feature a wide input range, trimmable output voltage and 30A output (5V is limited to 20A). Remote sense and remote ON/OFF facilities are included as standard, and the converters are comprehensively protected against over-current, over-voltage and over-temperature conditions.

NEW Product




2 YEAR WARRANTY

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

SPECIFICATIONS

OUTPUT SPECIFICATIONS

Voltage adjustability	60% to 110%	
Output setpoint accuracy	1.5%	
Line regulation	Low line to high line	±0.2% max.
Load regulation	Full load to min. load	±0.4% max.
Total error band		3.0%
Minimum load		0%
Overshoot	At turn-on and turn-off	None
Undershoot	None	
Ripple and noise 5Hz to 20MHz	(See Note 1)	100mV pk-pk 50mV rms
Transient response (See Note 2)	Deviation	150mV 300µs recovery to within total error band

EMC CHARACTERISTICS

Conducted emissions	EN55022 (See Note 7)	Level A
Radiated emissions	EN55022 (See Note 7)	Level B
Immunity:	(See Long Form Data Sheet)	Level A
ESD air	EN61000-4-2 8kV, 15kV	
ESD contact	EN61000-4-2 6kV, 8kV	
Radiated field enclosure	EN61000-4-3 10V/m	
Conducted (DC power)	EN61000-4-6 10V	
Conducted (signal)	EN61000-4-6 10V	(See Note 5)
Input transients	ETS 300 132-2, ETR 283	

GENERAL SPECIFICATIONS

Efficiency	See table	
Basic insulation	Input/output	1500VDC
Switching frequency (Fixed)	5V 3.3V, 1.8V	300kHz typ. 220kHz typ.
Approvals and standards (See Note 8)	TÜV Product Service UL/cUL60950	
Material flammability	UL94V-0	
Weight	45g (1.59oz)	
MTBF Representative model:	MIL-HDBK-217F 1V8 @ 48Vin, 40°C 100% load, ground benign BELLCORE 332	115,000 hours 591,000 hours

ENVIRONMENTAL SPECIFICATIONS

Thermal performance	Operating ambient. temperature	-40°C to +90°C
Altitude derating (above sea level)	Non-operating 3,000m 10,000m	-40°C to +125°C 20% 50%

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NEW Product

OUTPUT POWER (MAX.)	INPUT VOLTAGE	OVP	OUTPUT VOLTAGE	OUTPUT CURRENT (MIN.)	OUTPUT CURRENT (MAX.)	EFFICIENCY (TYP.)	REGULATION		MODEL NUMBER ⁽⁹⁾
							LINE	LOAD	
100W	36-75VDC	6.0VDC	5.0V	0A	20A	91.5%	±0.2%	±0.4%	EXB100-48S05
100W	36-75VDC	3.9VDC	3.3V	0A	30A	90.5%	±0.2%	±0.4%	EXB100-48S3V3
54W	36-75VDC	2.2VDC	1.8V	0A	30A	87.5%	±0.2%	±0.4%	EXB100-48S1V8

Notes

- 1 Measured as per recommended set-up. See Application Note 129 for details.
- 2 $di/dt = 0.1A/\mu s$, $Vin = 48VDC$, $Tc = 25^\circ C$, load change = 0.5 Io max. to 0.75 Io max. and 0.75 Io max. to 0.5 Io max.
- 3 Recommended input fusing is a 5A HRC 200V rated fuse.
- 4 Measured with external filter. See Application Note 129 for details.
- 5 Signal line assumed <3m in length.
- 6 Start-up into resistive load.
- 7 The EXB100 meets levels A and B conducted emissions with external components. See Application Note 129 for details.
- 8 This product is only for inclusion by professional installers within other equipment and must not be operated as a stand alone product.
- 9 Negative remote ON/OFF option also available. Add suffix 'R' to part number, for example EXB100-48S3V3-R.

PIN CONNECTIONS	
PIN NUMBER	FUNCTION
1	-Vin
2	No Pin
3	Remote ON/OFF
4	+Vin
5	+Vout
6	+Sense
7	Trim
8	-Sense
9	-Vout

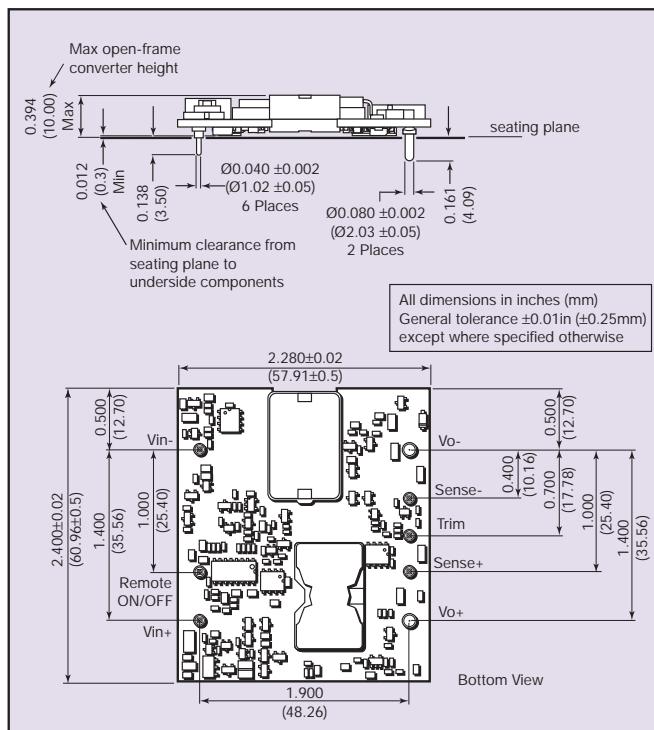
PROTECTION

Short circuit protection	Continuous
Overvoltage protection	Non-latching clamp

TELECOM SPECIFICATION

Central office interface A	ETS300-132-2 input voltage and current requirements
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CAUTION: Hazardous internal voltages and high temperatures. Ensure that unit is not user accessible.



International Safety Standard Approvals

UL UL/cUL CAN/CSA 22.2 No. 60950-00 : UL 60950
File No. E174104

TÜV TÜV Product Service. Certificate No. B 02 02 38572 031