



EBLD10000

5W SINGLE DC/DC CONVERTER

2"x1"x0.45"

10-18 Vin 100Vout @ 50mA

Key Features

- Efficiency up to 68%
- Six-sided shielding
- 2:1 input voltage range
- Input-to-output isolation
- Soft start
- External synchronization
- Short circuit protection
- Thermal protection
- Industry standard pinout



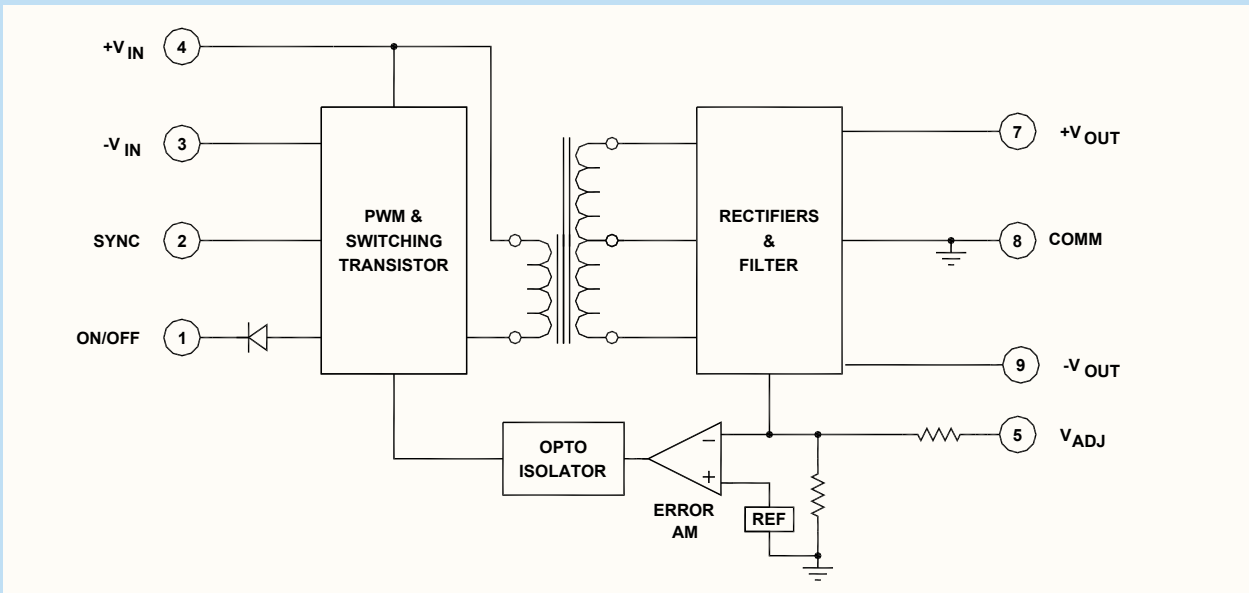
Beta Dyne is protected under various patents, including but not limited to U.S. Patent numbers: 5,777,519; 6,188,276; 6,262,901; 6,452,818; 6,473,3171.

Applications

Electronic Data Processing (EDP)
 Instrumentation/Industrial/Medical
 Communications
 Computers
 Fiber Optics

Functional Description

The EBLD1000 is an isolated 5W dual output DC/DC converter that accepts 10 to 18V_{IN} and provides (+/-50V)100V_{OUT}@0.050A. Additional features include input-to-output isolation, short circuit protection and soft start. The units come in 1x2x.45 inch package that reduces EMI and its six sided shielding eliminates RFI .



Typical Block Diagram

Electrical Specifications

INPUT SPECIFICATIONS

PARAMETER	CONDITION / NOTE	MIN	TYP	MAX	UNIT
Input Voltage Range		10	12	18	Vdc
Input Startup Voltage			8.8		Vdc
Undervoltage Shutdown		7.6			Vdc
Overvoltage Shutdown			20		
Input Filter	Capacitor				
Input Current			605		mA
Input Current	No Load		90		mA
Remote ON/OFF Control					
Supply ON	Pin 3 Open (Open circuit voltage: 10V Max.)				
Supply OFF		0		0.6	Vdc
Logic Input Reference	To -V _{IN}				
Logic Compatibility	TTL Open Collector or CMOS Open Drain				

OUTPUT SPECIFICATIONS

PARAMETER	CONDITION / NOTE	MIN	TYP	MAX	UNIT
Voltage Ratings			100		V
Output Voltage Accuracy			1	2	%
Output Voltage Adjustment	See Note 1		±5		%
¹ The Voltage adjust pin is referenced to pin#8	which is common				
Output Current			50		mA
Ripple & Noise	With external capacitors, see Figure 1.		1	2	%V _{PP} of V _{OUT}
Line Regulation	Minimum V _{IN} to maximum V _{IN}		±0.05	±0.1	%
Load Regulation	NL to FL		0.05	0.1	%
Temperature Coefficient @ FL			0.02		%/°C
Transient Response Time	50% FL to FL to 50% FL			300	µS
Short Circuit Protection	By input current limiting				

GENERAL SPECIFICATIONS

PARAMETER	CONDITION / NOTE	MIN	TYP	MAX	UNIT
Efficiency (at full power)			68		%
Isolation Voltage (1 min.), Input to Output			1500		Vdc
Isolation Resistance			10 ⁹		Ω
Isolation Capacitance			25		pF
Switching Frequency (F c)			90		kHz

ENVIRONMENTAL SPECIFICATIONS

PARAMETER	CONDITION / NOTE	MIN	TYP	MAX	UNIT
Operating Temperature Range (Ambient)		-40		+85	°C
Storage Temperature Range		-55		+125	°C
Maximum Operating Case Temperature				110	°C
Shielding Connection	-Vin				

PHYSICAL CHARACTERISTICS

PARAMETER	CONDITION / NOTE	MIN	TYP	MAX	UNIT
Dimensions (L×W×H)	2.00×1.00×0.450 in. (50.80×25.40×11.43mm)				
Weight	1.3 oz. (37g)				

² Nominal input current is the typical value measured at the input of the converter under full-load at room temperature and nominal input voltage (12Vdc).

³ See Application Note DC-004: Thermal Considerations for DC/DC Converters.

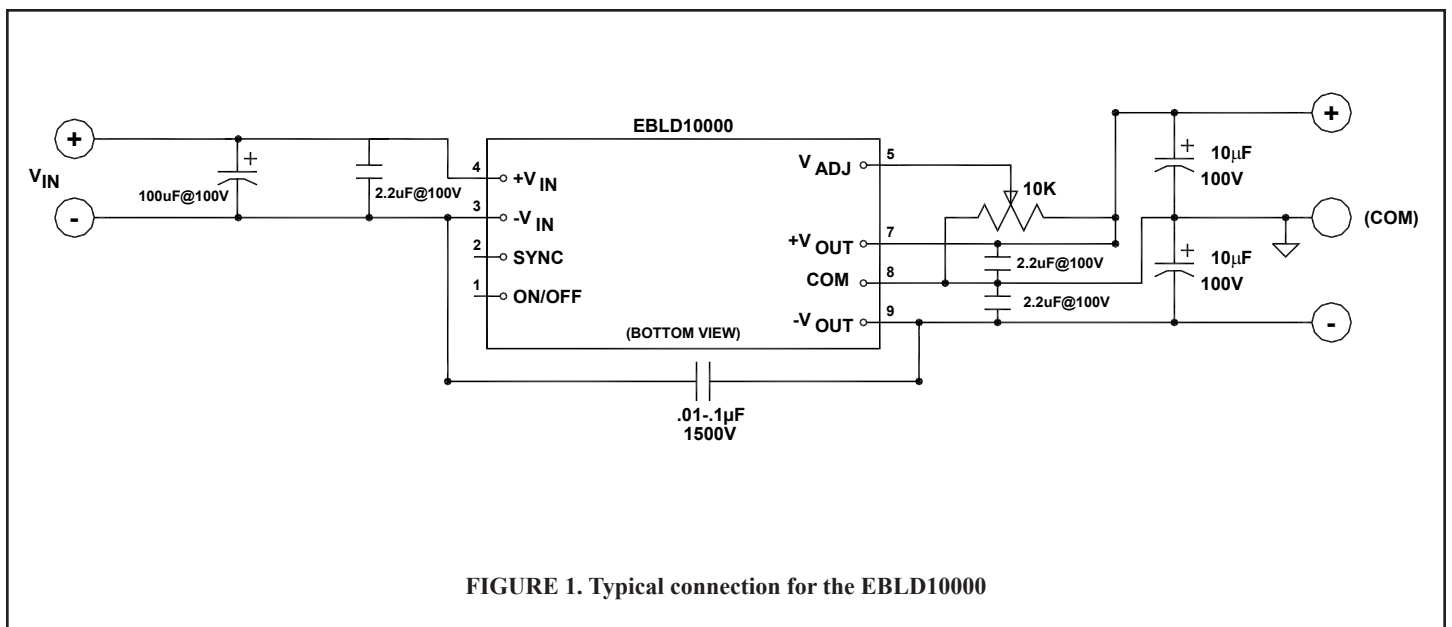
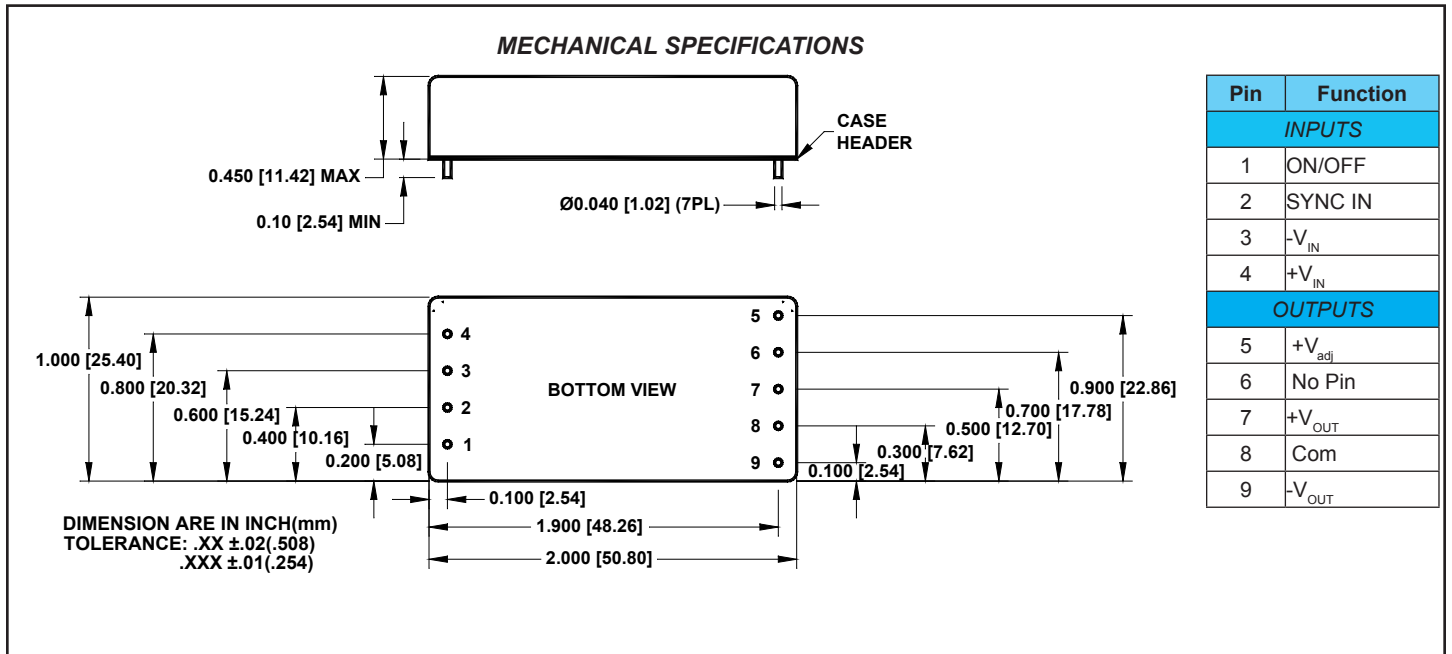


FIGURE 1. Typical connection for the EBLD10000