
Features

- Wide Input Range: 6V to 60 V
- Up to 2.5A Output Current
- Ultra-compact Design: 21.6 x 14.7mm
- Up to 90% Efficiency
- Short Circuit Protection
- Low Ripple Voltage
- Low EMI
- Low Shutdown Current: 35 μ A
- Standard Output Voltages Available:
 - 3.3V, 4.4V, 5.0V, 6.0V, 9.0V, 12.0V
- Custom Output Voltages on Request

Applications

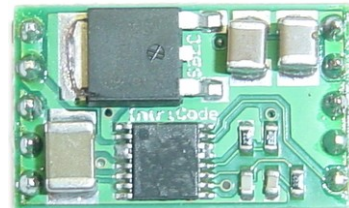
- Robotics
- Communication Systems
- Battery-Powered Devices
- Radio Control Applications
- Remote Camera Equipment
- 12V / 24V / 36V / 48V Vehicle Systems

Description

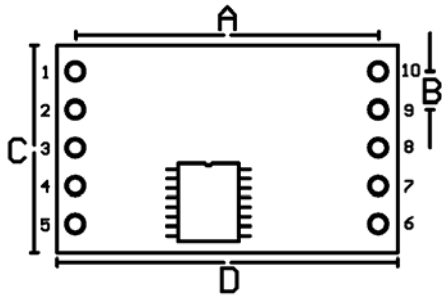
SBEC is a highly compact, light weight switch-mode DC-DC buck converter in a Dual-in-Line Package (DIP) capable of providing up to 2.5A at the rated output voltage. SBEC uses the latest in integrated circuit technology combined with advanced design techniques to reduce the EMI inherent in switch-mode supplies. The small size makes it suitable for space or weight sensitive applications or where high efficiency is required. The wide input range of 6V to 60V, small size and high output current capability makes SBEC suitable for a wide variety of applications requiring a stable regulated power supply operating with high efficiency.



SBEC Compact Switch-Mode DC-DC Step-Down Converter



1 Pin Configuration



	A	B	C	D
mil	850	100	580	950
mm	21.59	2.54	14.73	23
In	0.850	0.100	0.580	0.950

Table 1. Dimensions

Pin	Name	Description
1	VIN	DC input voltage up to 60V
2	VIN	DC input voltage up to 60V
3	GND	Ground
4	GND	Ground
5	GND	Ground
6	SHDN	Shutdown. Active low (consumes 35µA). Float or pull high to enable.
7	GND	Ground
8	GND	Ground
9	VOUT	Regulated output voltage
10	VOUT	Regulated output voltage

Table 2. Pin Descriptions

Notes:

- Ground pins must be connected together. Ground pins provide additional heat dissipation and should therefore be connected to as large a ground plane as possible.
- Input pins 1 and 2 (VIN) are internally connected. It is recommended they are connected together.
- Input voltage transients may be caused by input voltage steps or by connecting the converter to an already powered up source such as a wall adapter. The sudden application of input voltage will cause a large surge of current in the input leads that will store energy in the parasitic inductance of the leads. This energy will cause the input voltage to swing above the DC level of input power source and it may exceed the maximum voltage rating of SBEC. The easiest way to suppress input voltage transients is to add a small aluminum electrolytic decoupling capacitor with a capacitance of 10µF to 50µF.
- The SHDN pin is used to turn off the regulator and to reduce input drain current to a few microamperes. This pin has two thresholds: one at 2.38V to disable switching and a second at 0.4V to force complete micropower shutdown. The 2.38V threshold functions as an accurate undervoltage lockout (UVLO); sometimes used to prevent the regulator from delivering power until the input voltage has reached a predetermined level. If the SHDN pin functions are not required, the pin can either be left open (to allow an internal bias current to lift the pin to a default high state) or be forced high to a level not to exceed 6V.

2 Absolute Maximum Ratings

Input Voltage (VIN).....	60V
SHDN Voltage	6V
Operating Junction Temperature Range.....	-40°C to 125°C
Storage Temperature Range	-65°C to 150°C
Lead Temperature (Soldering, 10 sec).....	300°C

3 Contact

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