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SBDC14219F

RoHS Compliant

Specifications and Applications Information

08/01/13

SmartBridge DC-DC Converter

The ERG **SmartBridge Series** is designed to "bridge the gap" in current LCD systems when transitioning from an OEM CCFL backlit LCD to an OEM LED LCD panel with a built-in driver taking into consideration the parameters of the existing power setup. The result is a complete plug-and-play setup transitioning the design towards the new LED backlit LCD.

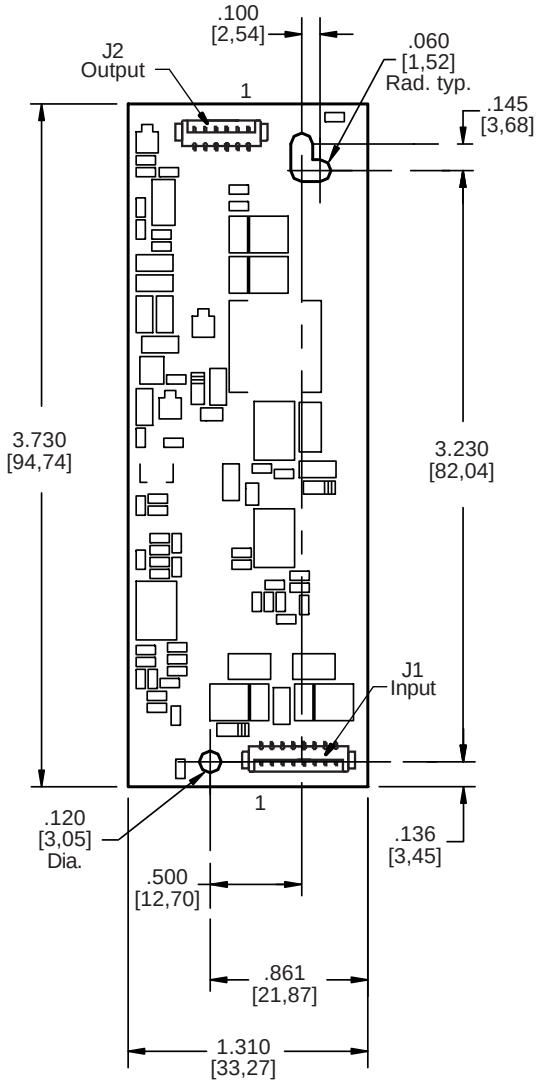
The ERG SBDC14219F is specifically designed for applications requiring a step-down conversion from a 24 Volt DC supply to a 12 Volt DC source, simple integration and point of load voltage regulation.

Designed, manufactured and supported within the USA, the SBDC14219F features:

- ✓ 10 mm or less in height
- ✓ High efficiency
- ✓ Soft start
- ✓ One year warranty

Connectors	
Input Connector	**Output Connector**
Molex 52361-0871	Molex 52361-0671
J1-1 Vin (+24 Vdc)	J2-1 Vout (+12 Vdc)
J1-2 Vin (+24 Vdc)	J2-2 Vout (+12 Vdc)
J1-3 GND	J2-3 GND
J1-4 GND	J2-4 GND
J1-5 N/C	J2-5 N/C
J1-6 N/C	J2-6 N/C
J1-7 N/C	
J1-8 N/C	

Package Configuration



PCB components are shown for reference only. Actual product may differ from that shown.

Mass: 15 grams typ.

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Absolute Maximum Ratings

Rating	Symbol	Value	Units
Input Voltage Range	V_{in}	-0.3 to +28	Vdc
Storage Temperature	T_{stg}	-40 to +85	°C

Operating Characteristics

Unless otherwise noted Vin = 24.00 Vdc and Ta = 25°C.

Characteristic	Symbol	Min	Typ	Max	Units
Input Voltage (Note 1)	V_{in}	+21.6	+24.0	+26.4	Vdc
Component Surface Temperature (Note 2)	T_s	-20	-	+80	°C
Input Current	I_{in}	-	0.66	0.73	Adc
Peak Inrush Current (Note 3)	I_{peak}	-	1.1	-	Adc
Output Voltage (Note 1)	V_{out}	11.6	12.0	12.4	Vdc
Output Current	I_{out}	-	-	1.25	Adc
Output Voltage Ripple (Note 4)	V_{rip}	-	6.4	-	mVrms
Load Regulation (Note 4)	I_{reg}	-	0.2	-	%
Efficiency	η	-	95	-	%
Switching Frequency	F_{SW}	-	300	-	kHz

Specifications subject to change without notice.

Note 1 Vin and Vout values are measured at their respective input and output PCB connectors. Power cable losses to and from the DC/DC converter will occur and should be accounted for in the power supply or battery system design.

Note 2 Surface temperature must not exceed 80°C.

Note 3 At full load for 5 ms duration.

Note 4 At full load.

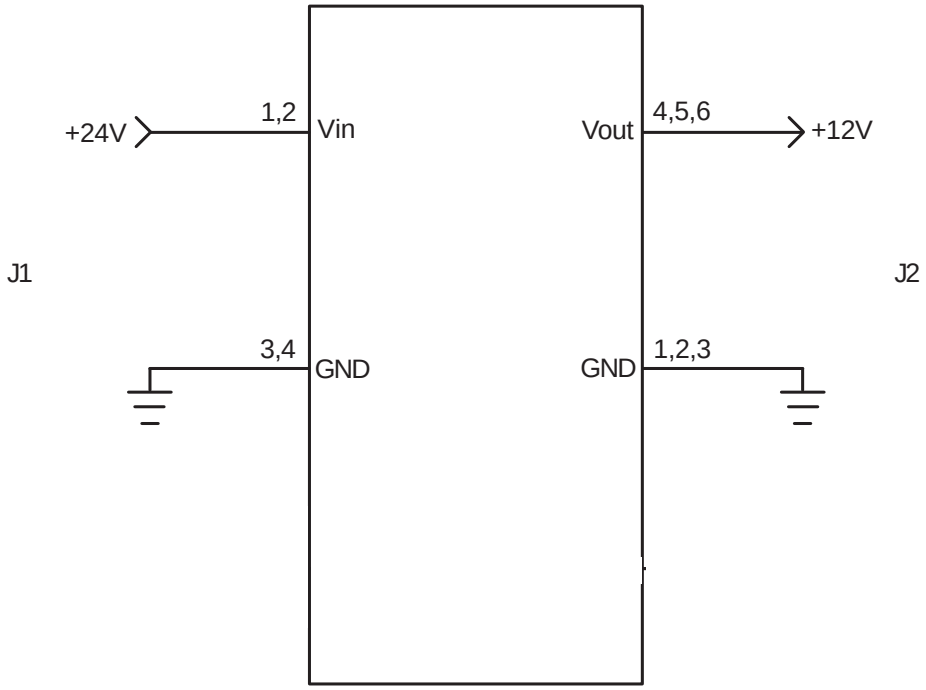

Figure 1