

AUTOMOTIVE DC-DC CONVERTER SDC122.1 (144 WATTS)

APPLICATION:

- * Industrial Electric & Hybrid Vehicles
- * Public Transportation (12V Systems)
- * Ticketing Systems
- * Communication Equipment
- * Mobile Equipment
- * Marine, Navy & Boats
- * Recreational Vehicles
- * Global Positioning Systems (GPS)

PRELIMINARY DATA

Description:

The SDC122.1 is a high density DC-DC Converter to power electronic equipment on transportation vehicles. This particular unit is meant especially to work on 12V battery systems, to power 24V electronic equipment. The converter is specially geared to supply power during start-up and cranking, when battery voltage drops to an extreme low. The output is **galvanically isolated** from its input.

Highlights:

- * Light weight
- * High power density
- * Vibration resistant
- * LED for visual Input Voltage Indication
- * Transient protection
- * Compact Package
- * Wide input voltage range
- * Over-temperature Limit
- * Water spray protection
- * Under & Overvoltage shutdown
- * LED for visual Output Voltage Indication
- * Humidity protection
- * Wide temp. range

Features:

Input Filter and Transient Protection: Unique input filtering with rigid transient protection enable this unit to be used in severe transient and high noise environments. These situations are present in all transportation vehicles of industrial, automotive and other type applications.

Input Overvoltage and Transient Protection: The input filter allows for filtering of transients and also limits the magnitude of transients. Should a lasting overvoltage condition occur (24 V input), the unit is switched off and stops operation. When the input voltage is reduced to the operating voltage, it resumes operation.

High Frequency Switching: The module features a proprietary near zero loss high frequency switching method, with no RF ringing and no switching transients. This feature provides highest efficiency (86%). RF compliance with low interference and low noise outputs. Remarkable power density of 25 Watts / in³.

Over-temperature Limit: Even though the unit has very high efficiency (86%), it is heating up during operation. An internal over-temperature control limits the output power, so that the internal dissipation is reduced and overheating is prevented.

Input Fuse and Reverse Polarity Protection: The converter features a built-in input fuse. If the polarity is accidentally reversed on the input, a protective diode on the input protects the input voltage from reversing. The input fuse would then "blow" because of the "short circuit" created.

Output Overcurrent and Short Circuit Protection: If the output current is increased due to a heavy load or due to a short circuit, the maximum output current is limited to 10 Amperes. The Voltage reduces automatically. At a maximum current the unit turns off completely and a new start cycle is initiated.

Connection: Heavy duty screw terminals provide for input and output connections.

Control: Six pins on the output provide for external adjustment of the output voltage. A potentiometer (10 to 20 kOhm) can be connected to those pins. The output voltage can be gradually reduced to about 15 Volts. This feature can be used to vary the output voltage. If a switch is connected, the output can be switched between a low or high output voltage.

SPECIFICATIONS - SDC122.1:

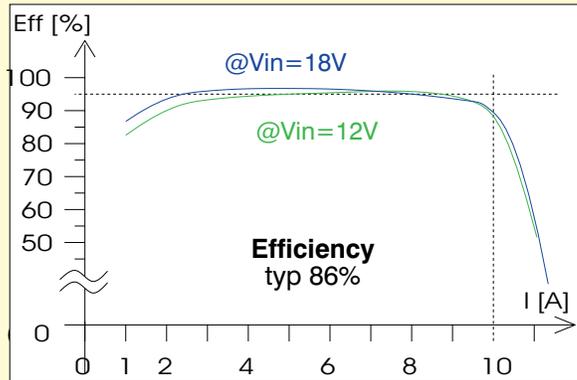
INPUT: + 8.5 V MIN.(9V) + 24 V MAX.(18V)
(other voltages on request)

OUTPUT: + 24 V / 6 A
(other voltages on request)

Protection Circuits:

- * Input Transient Protection:
1.5kW with 10 / 1000us; Repetition rate 0.01%
- * Input Under- & Over-Voltage Shutdown
- * Reverse Polarity Protection
- * Input Fuse
- * Over-temperature Protection
- * Output Overcurrent Limit

Efficiency: 86% typ.

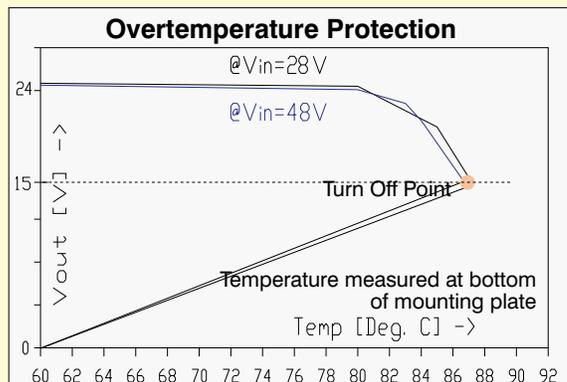


Weight: 10 ozs. (0.68 lb), 300 grams

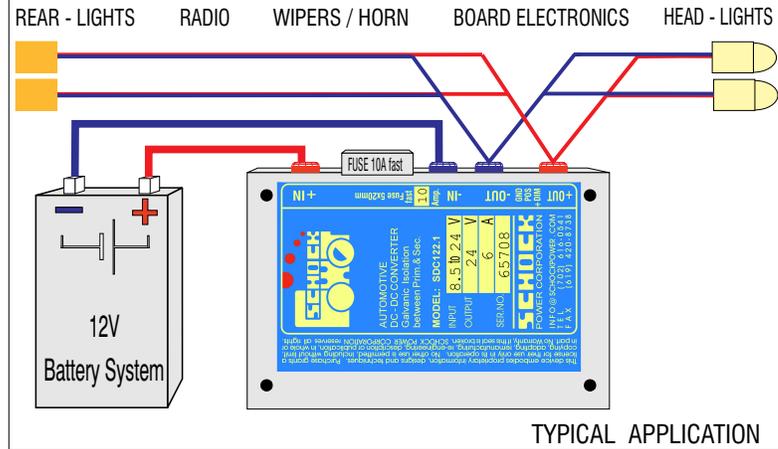
Dimensions:

3.950" x 2.613" x 0.671"
100.3mm x 66.4mm x 17.0 mm

Mounting: 4 x M3 or 4-40 screw holes



changes without notice



TYPICAL APPLICATION

