



AMERICAN HIGH VOLTAGE

SQ Series Mini-Sized Modules

HIGH VOLTAGE
POWER SUPPLY



The SQ Series is a line of compact high voltage DC to DC converters that have been designed especially for battery operated systems where high efficiency is required. Like their SC cousins, the SQ models are rugged, arc resistant, and virtually burn-out proof. Power transfer efficiencies up to 80% are standard as is seen by the very low input current required for operation. The output power of all SQ models is limited to 1.5 Watts. All SQ's are reverse input voltage and short circuit protected.

TYPICAL APPLICATIONS

Battery Operated Equipment
General Lab Use
Electrostatics
Bias Voltage
Grid Supply
Ion Source

SPECIFICATIONS

Input Voltage:

5 VDC Input (dash 5Vin Models)
12 VDC Input Standard
24 VDC Input (dash 24Vin Models)
48 VDC Input (dash 48in Models)

Output Voltage:

From 50 VDC to 3,000 VDC
See "model selection table"

Output Polarity:

Output is floating

Output Current:

depends upon power level
See "model selection table"

SQ Series High Efficiency

- Output proportional to Input
- 100 VDC to 3,000 VDC available
- 1.5 Watt power level
- Low Input Current 30 mA typ.

SPECIFICATIONS Continued

Voltage Regulation

10% NL – FL (typical) Resistive load

Ripple:

1% maximum at full load

Temperature Coefficient:

100 ppm/ °C

Stability:

< 0.1% drift / hour after warm-up to operating temperature

Operating Temperature:

-55 °C to +100 °C case temperature

Humidity:

10% to 90% RH non-condensing

Input Terminals:

Gold pins (0.04 inch diameter x 0.25 inch length)

Output Terminals:

Gold Pins (0.04 inch diameter x 0.25 inch length)

Input Current:

1.5 W Module 12 Vin: 25 mA (No load)
1.5 W Module 12 Vin: 150 mA (Full 1.5W load)

Power Efficiency:

80% typical at full load

Encapsulation:

Epoxy potting

Short Circuit Ability:

Fold-back circuitry

Switching Frequency:

Typical 30kHz

HIGH VOLTAGE
for the
WORLD

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www.ahv.com
American High Voltage is an
ISO 9001 company

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SPECIFICATIONS Continued

Cooling:

Convection: 1.5W module = 10 ° C case temperature rise max

Dimensions:

2.5 L x 1.5 W x 0.75 H (63.5mm x 38.1mm x 19.1mm)

Weight:

4.3 oz (120 grams)

Encapsulation:

Epoxy potting

Finish:

Smooth Diallyl-Phthalate Thermoset Case

Terminations:

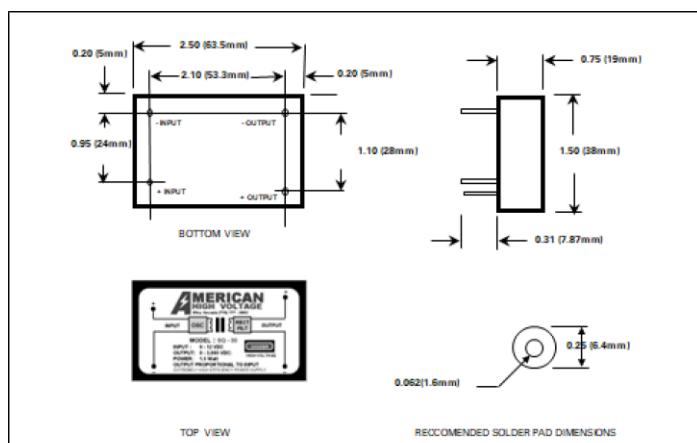
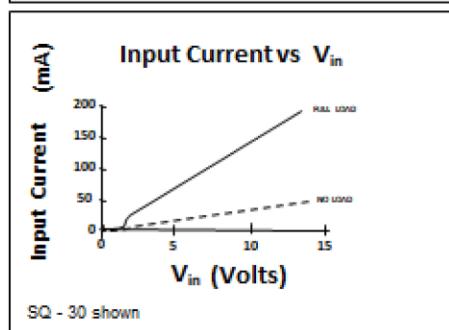
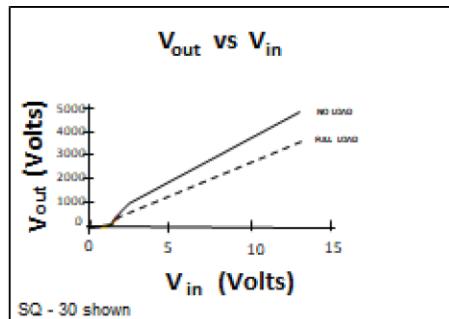
Electro-Gold Plated Brass pins (4)

MODEL SELECTION TABLE

Model	Voltage	Power Available
SQ-1	0 - 100v	1.5w
SQ-2	0 - 200v	1.5w
SQ-3	0 - 300v	1.5w
SQ-5	0 - 500v	1.5w
SQ-10	0 - 1kv	1.5w
SQ-15	0 - 1.5kv	1.5w
SQ-20	0 - 2kv	1.5w
SQ-30	0 - 3kv	1.5w

The above products are available in: 5V, (12v standard), 24v , or 48v input

PERFORMANCE CHARTS



Ordering Information:

SQ - XX Y 1.5W / Z

Example:

SQ - 30 1.5W Maximum output = 3,000V 1.5 Watts 12 VDC input
SQ - 10 1.5W/5V: Maximum output = 1,000V 1.5W 5VDC input

XX = Output voltage
1.5W = Maximum power
Z = Input voltage (blank if 12VDC)

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