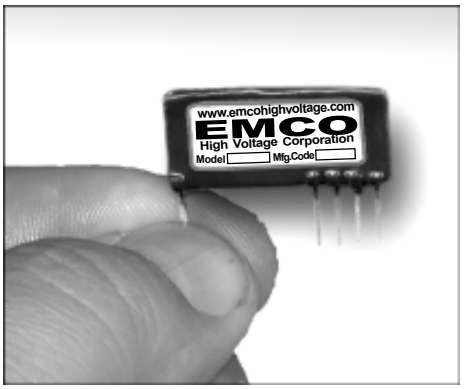
Ultra-Thin, Miniature, DC to DC Converter

SIP Series

<20 to 90V @ 1mA, <30 to 100V @ 10mA

www.emcohighvoltage.com
EMCO
High Voltage Corporation



Ideal for APD biasing applications, the SIP Series provides high performance in an ultra-thin, miniature single in-line package. Designed for low cost, high quantity applications, these DC to DC converters deliver high stability with very low ripple. The output voltage is programmable via a 0 to 5 volt analog voltage, such as the output from a DAC. This allows the user to temperature compensate the APD bias voltage with hardware or software solutions.The output voltage is inversely related to the programming voltage, i.e. 5V applied to the programming input programs the output voltage to the minimum level . Conversely, 0 volts on the programming input sets the output voltage to the maximum level. The supply is linearly programmable through this range*2 . An enable/disable function is included. TTL Low (open collector compatible) disables the output voltage to less than 10 volts. Contact our Applications Engineers or Sales Associates for immediate assistance to your requirement.

FEATURES

Low Ripple
Well Regulated
High Stability
Analog Programmable
Ultra-Thin, 0.16 inches (4mm)
Compact SIP Package
Designed for High Quantity Applications
High Performance/Low Cost

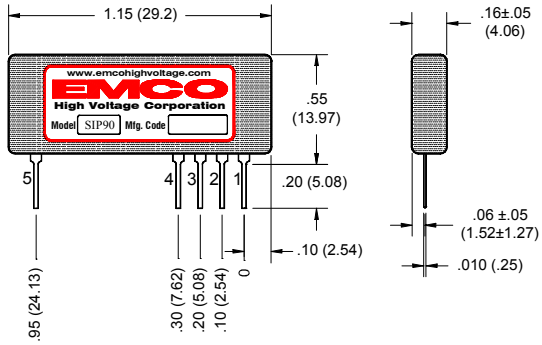
MODEL	OUTPUT VOLTAGE	OUTPUT CURRENT	SUPPLY VOLTAGE	INPUT CURRENT	RIPPLE*1	REGULATION*1 Line	Load	CASE
SIP90	<20 to 90V	0 to 1mA	3 to 6.7V	<150mA	<5mV	<0.06%	<0.025%	A
SIP100	<30 to 100V	0 to10mA	4 to 6.7V	<350mA	<10mV	<0.2%	<0.1%	B

PHYSICAL CHARACTERISTICS

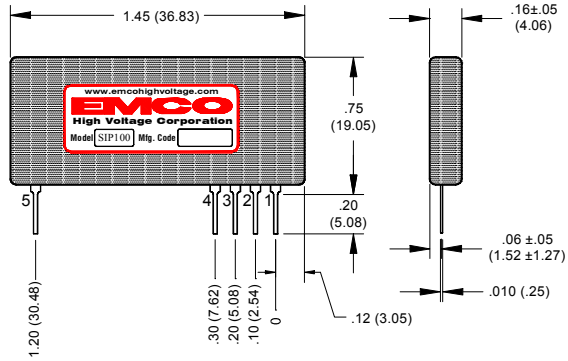
Size SIP90: 1.15 x 0.55 x 0.16 (29.2 x 13.97 x 4.06)
SIP100: 1.45 x 0.75 x 0.16 (36.83 x 19.05 x 4.06)
Weight SIP90: <0.2oz (5 grams)
SIP100: <0.25oz (7.1 grams)
Packaging: Epoxy Coated

Dimensions are in inches
Dimensional Tolerances: ± .03 (.76mm)
(Metric equivalents in parenthesis)

SIP90



SIP100



ELECTRICAL SPECIFICATIONS

see table
Operating Temp: -20⁰ to +70⁰C
Storage Temp: -20⁰ to +105⁰C
Stability: <0.01%/hr/8hrs after 1hr warm up*1
Temperature Coefficient: <200ppm/⁰C*1
Programming Voltage: 5V max

*1Operating Condition:

1. Typical operation: 5V in, full output voltage and load, +25⁰C

PIN#	FUNCTION
1	PROGRAMMING INPUT
2	GROUND
3	DISABLE: TTL LOW, OPEN COLLECTOR COMPATIBLE
4	SUPPLY VOLTAGE
5	OUTPUT VOLTAGE

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Web site: www.emcohighvoltage.com

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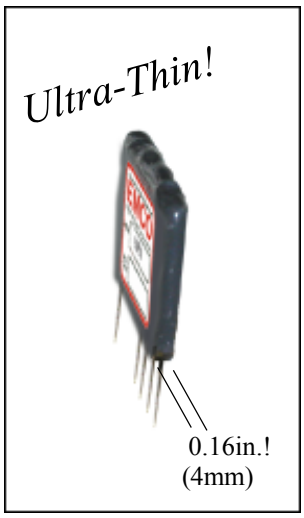
Application Notes:

SIP90 Programing Voltage ≅ $\frac{\text{90.5-Vout}}{\text{14.1}}$

SIP100 Programing Voltage ≅ $\frac{\text{100-Vout}}{\text{15.8}}$

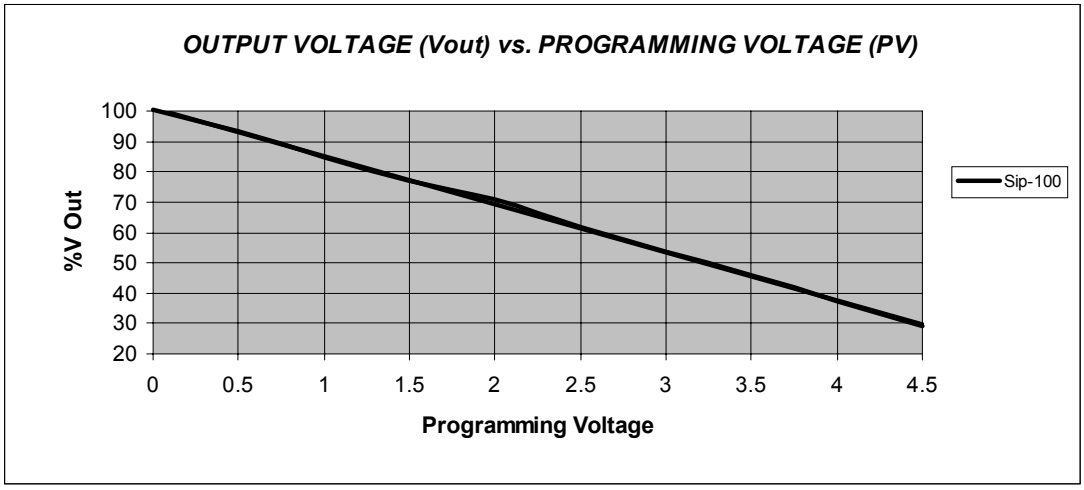


Ripple Measurements:

1. Ripple specified at maximum output power.
2. Set scope bandwidth limit to 20MHz.
3. Minimize probe ground length. (<1 cm from supply)

Programming pin(#1):

1. Pin should not be left open for min Vout.
2. Pin must be grounded for max Vout.
3. Pin can be modeled in the following way:



APD Bias Supply Catalog at:
www.APD-Bias-Supply.com

Full High Voltage Power Supply Catalog at:
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