



SXXSXX-1WH2 Series

Fixed input voltage
Unregulated single output
DC/DC Converter



Product Feature

- ⊙ Constant voltage input(5-24VDC±5%)
- ⊙ Efficiency up to 78%
- ⊙ Wide operating temperature range : -40°C~+ 85°C
- ⊙ Isolation voltage 1500VDC 0.5mA 1Minute
- ⊙ Single-row in-line (SIP) encapsulation
- ⊙ Plastic shell flame retardant package
- ⊙ Comply with the RoHS directive
- ⊙ Heat dissipation mode: natural cooling
- ⊙ Mean time without failure: 500000H

Application Area

Communication interface converter (RS232/485) cellular phone, semiconductor laser, operational amplifier power supply, portable instrument, automatic control device, etc.

SXXSXX-1WH2 DC/DC Converter Parameters

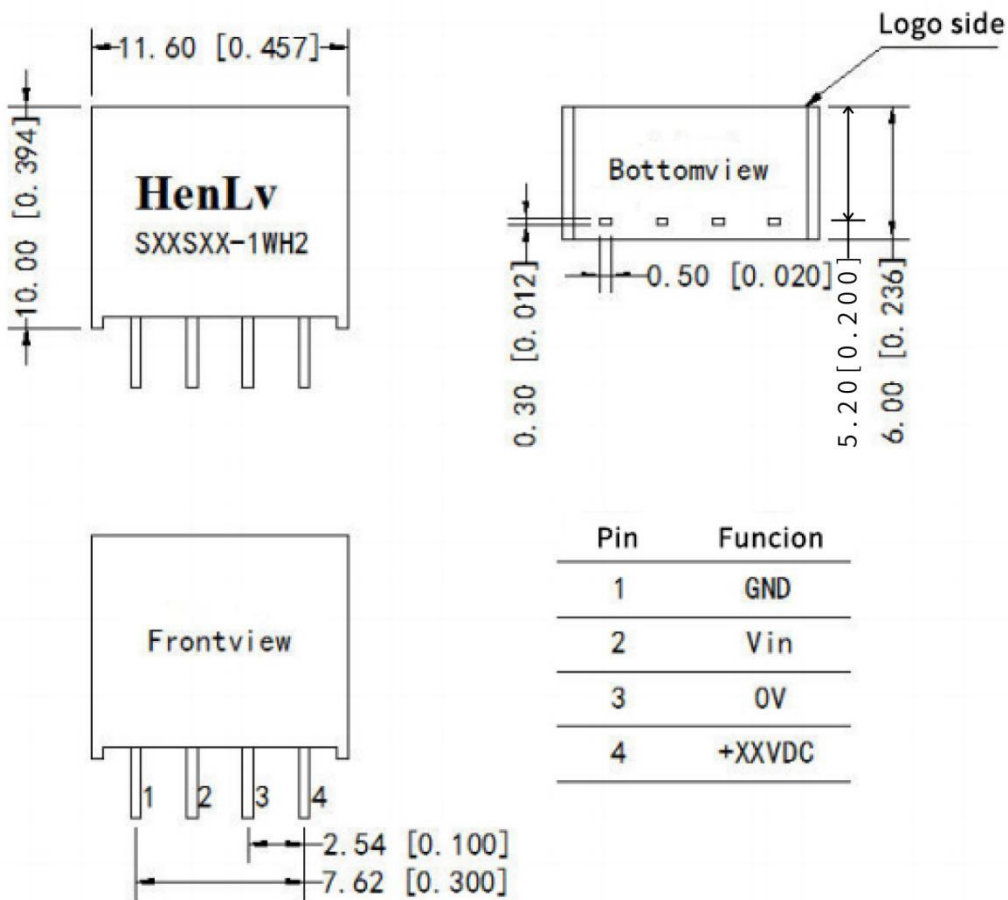
Part No.	Input Voltage (V)	Output Voltage (V±4%)	Full load output current(mA)	Efficiency	Isolatio withstand voltage (VDC)	Maximum capacitive load(uF)	Packaging	Certification
S05S3.3-1WH2	+5VDC(±5%)	3.3	303	≥72%	1500	220	SIP	
S05S05-1WH2		5	200	≥72%	1500		SIP	
S05S09-1WH2		9	111	≥72%	1500		SIP	
S05S12-1WH2		12	83	≥75%	1500		SIP	
S05S15-1WH2		15	67	≥75%	1500		SIP	
S05S24-1WH2		24	42	≥78%	1500		SIP	
S12S3.3-1WH2	+12VDC(±5%)	3.3	303	≥72%	1500		SIP	
S12S05-1WH2		5	200	≥72%	1500		SIP	
S12S09-1WH2		9	111	≥72%	1500		SIP	
S12S12-1WH2		12	83	≥75%	1500		SIP	
S12S15-1WH2		15	67	≥75%	1500		SIP	
S12S24-1WH2		24	42	≥78%	1500		SIP	
S24S3.3-1WH2	+24VDC(±5%)	3.3	303	≥72%	1500		SIP	
S24S05-1WH2		5	200	≥72%	1500		SIP	
S24S09-1WH2		9	111	≥72%	1500		SIP	
S24S12-1WH2		12	83	≥75%	1500		SIP	
S24S15-1WH2		15	67	≥75%	1500		SIP	
S24S24-1WH2		24	42	≥78%	1500		SIP	



Overall dimensions and pin definition

SXXSXX-1WH2 Series (SIP)

11.60×6.00×10.00mm



Unit of size: mm[inch]

Terminal diameter tolerance: ± 0.10 [± 0.004]

Unmarked tolerance: ± 0.25 [± 0.010]



Electrical Characteristics

Electrical Characteristics

Item	Symbol	Condition except as otherwise herein provided $V_i, -40^{\circ}\text{C} \leq T_c \leq 85^{\circ}\text{C}$	Limit Value		Unit
			Min	Max	
Output Voltage	V_o	Full Load	$V_o - 4\%V_o$	$V_o + 4\%V_o$	V
Max Output Current	$I_{o\max}$	-	-	P_o/U_o	A
Output Ripple Voltage	V_{p-p}	Full Load, V_i , BW=20MHz, Normal Temperature	$50 \pm 10\%$	$300 \pm 10\%$	mV
Voltage regulation factor	S_v	$V_{i\min}$, V_i , $V_{i\max}$, Full Load	-	2.00	%
Load regulation	S_i	V_i , $I_o = (10\% \sim 100\%)I_{o\max}$	-	1.00	%
Efficiency	η	V_i , Full Load, Normal Temperature	72.00	-	%
Insulation Resistance	RI	Add 1000VDC between the input and output points Room temperature, $t \geq 3S$	50	-	$M\Omega$

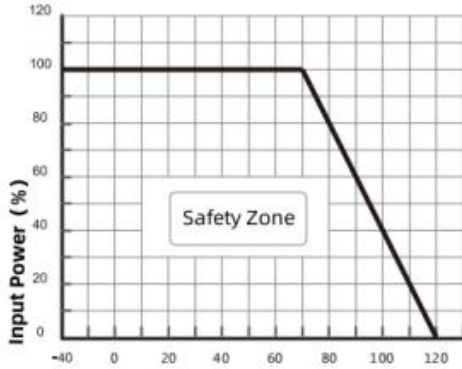
General Characteristics

EMC	Magnetic field sensitivity test	GB6833.2-87
	Electrostatic discharge sensitivity test	GB6833.3-87
	Radiation sensitivity test	GB6833.5-87
	Conduction sensitivity test	GB6833.6-87
Temperature excursion	0.03%/°C	
Frequency	50K HZ~300K HZ (MAX)	
Humidness	90% (max)	
Leak Current	NO	
MTBF	>500,000 Hours	

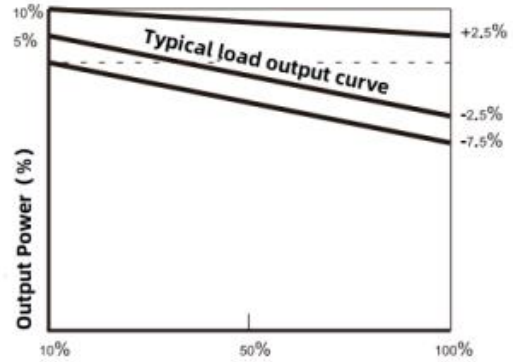


Temperature curve, error envelope curve

• Typical efficiency curve

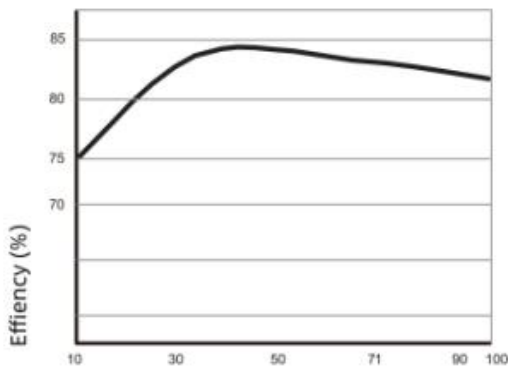


Environment temperature (°C)
Temperature profile



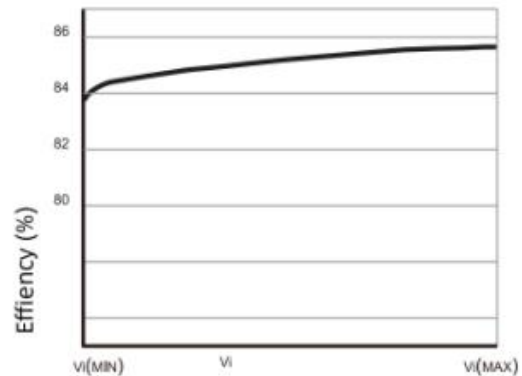
Environment temperature (°C)
Error envelope graph

• Typical efficiency curve



Load (%) (Input Voltage=Vin)

Efficiency/load graph

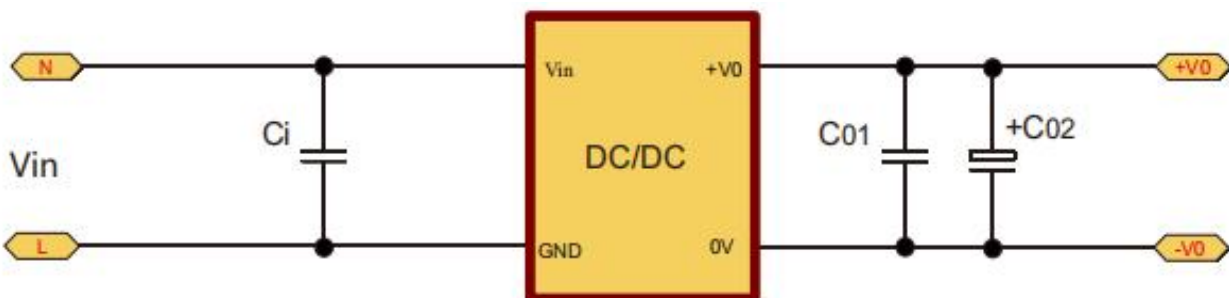


Load (%) (Input Voltage=Vin)

Efficiency/Input voltage graph

Typical Application

• Recommended Circuit





Typical Application

• Recommendation test

Filtering: In some circuits sensitive to noise and ripple, a filter capacitor can be externally connected to the input and output terminals of DC/DC to reduce ripple's impact on the system, but the value of the filter capacitance should be appropriate. If the capacitor is too large, it may cause startup problems. For each output line, under the condition of ensuring safe and reliable operation, The maximum capacity of its filtering capacitance can be referred to the external capacitance table. In order to obtain very low ripple, an "LC" filtering network can be connected to the input and output end of DC/DC converter, so that the filtering effect will be better. At the same time, it should be noted that the value of inductance and the frequency of "LC" filtering network should be staggered from the frequency of DC/DC module power supply to avoid mutual interference. For each output line, it is recommended to see the capacitive load value (Table 1) under safe and reliable working conditions.

Table of recommended capacitive load values (Table 1)

Input Voltage (Vin+)	Input Capacitor(Cin)	Output Voltage(Vout)	Output Capacitor Cout)
5V	1uF	3.3V	4.7uF
12V	4.7uF	9V	2.2uF
24V	1uF	15V	0.47uF

➡ Explanatory matters

• Packing

This series module adopts shockproof and antistatic package (i Packaging).



• Transport

The modular package is allowed to be transported by any means of transport, which shall avoid direct rain or snow and mechanical damage.

• Store

Modules should be stored in a warehouse where the ambient temperature is -40 degrees ~ 125 degrees, the relative humidity is 10%~90%, and the surrounding environment is free from acid, alkaline and other harmful gases.

The above are the performance indicators of the product series listed in this manual. Some indicators of non-standard products may exceed the above requirements. In case of any inconsistency between the manual and the product specification documents, please refer to the specification documents.