

Pin	Function
1	NO PIN
2	-VI
3	+VI
4	NO PIN
5	-Vo
6	NO PIN
7	NO PIN
8	NO PIN
9	+Vo

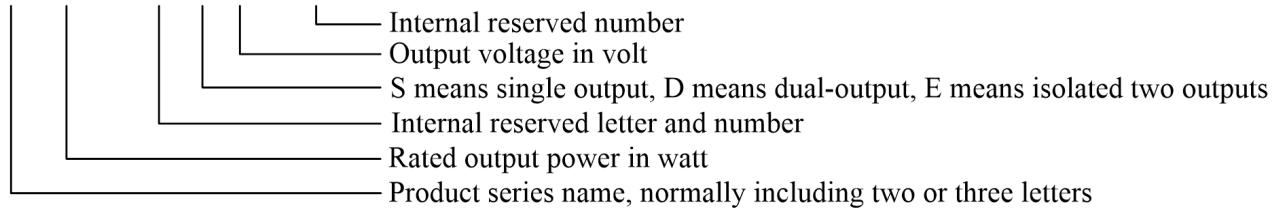
Unit: mm  
Pin diameter tolerance:  $\pm 0.10$   
General tolerance:  $\pm 0.50$

## GH15(25)-C2Sxx-01

### DC-DC Power Supply Module

#### Super wide DC input, isolated single output

GH xx - C2 S xx - 01



### Product Characteristics

- Ultra wide input voltage range, 40-1000VDC
- Designed based on safety standards
- Input and output isolation, 4000VDC
- Applications: photovoltaic power station, energy storage system, other high voltage input industrial equipment
- Input reversed polarity protection
- Output protection: OCP, SCP
- No minimum load requirement

### Model Selection Table

Model	Dimensions (L*W*H)	Rated power	Rated output voltage/current		Typical efficiency (Vin = 600VDC)
			Vo	Io	
GH15-C2S05-01	70.0*48.0*23.5mm (Plastic case)	15W	5V	3000mA	71%
GH15-C2S12-01			12V	1250mA	74%
GH15-C2S15-01			15V	1000mA	75%
GH15-C2S24-01			24V	625mA	79%
GH25-C2S05-01	72.0*50.0*23.5mm (Metal case)	25W	5V	5000mA	74%
GH25-C2S12-01			12V	2080mA	78%

GH25-C2S15-01		15V	1660mA	79%
GH25-C2S24-01		24V	1040mA	82%

### Input Characteristics

Item	Test Condition / Description	MIN	TYP	MAX
Input voltage range	DC input	40VDC	500VDC	1000VDC
Input current	V <sub>in</sub> = 500VDC, GH15-C2Xxx-01	-	46mA	-
	V <sub>in</sub> = 500VDC, GH25-C2Xxx-01	-	74mA	-
Surge current	V <sub>in</sub> = 40VDC	-	40A	-
	V <sub>in</sub> = 40VDC	-	80A	-
Input reversed polarity protection	If input polarity is reversed, the PSM should not be damaged.	Available		
External input fuse	2A / (≥1000VDC) external input fuse	Required		

### Output Characteristics

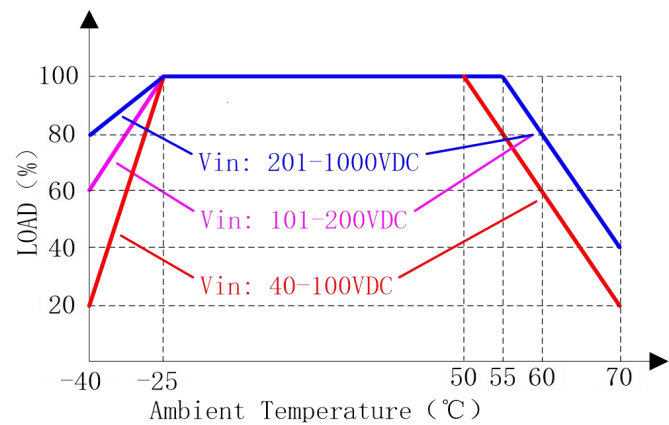
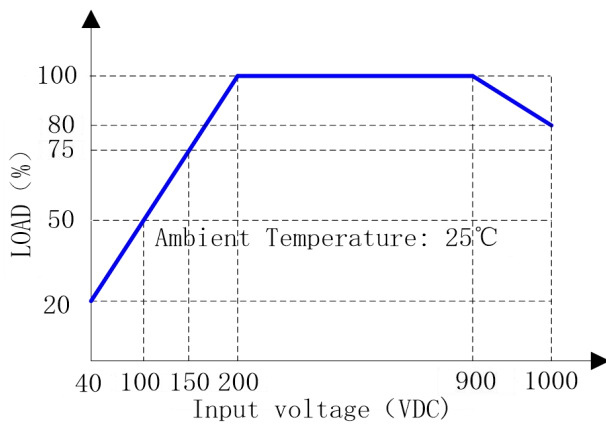
Item	Test Condition / Description	MIN	TYP	MAX
Voltage accuracy		-	±1%	±2%
Line regulation	100%I <sub>o</sub>	-	±0.5%	±1%
Load regulation	10%-100%I <sub>o</sub>	-	±0.5%	±1%
Ripple and noise* <sup>1</sup>		-	75mV	150mV
OCP	Output over current protection	≥110%I <sub>o</sub> , self recovery		
SCP	Output short circuit protection	self recovery		
Minimum load		0	-	-
Start-up delay time		-	500ms	-
Hold-up time	V <sub>in</sub> = 500VDC, 100%I <sub>o</sub>	-	10ms	-
Hot plug		Prohibited		
Paralleled working		Prohibited		

Remark \*1: Oscilloscope probe should be connected with the paralleled combination of a 10uF high frequency low resistance electrolytic capacitor and a 0.1uF ceramic capacitor. Band width is set to 20MHz, and peak to peak value is measured.

## General Characteristics

Item	Test Condition / Description	MIN	TYP	MAX
Working temperature		-40°C	-	+70°C
Storage temperature		-40°C	-	+105°C
Storage humidity		-	-	95%RH
Switching frequency		-	65kHz	-
Isolation voltage	Input to output, 60s, ≤5mA	4000VDC	-	-
MTBF	MIL-HDBK-217F@25°C	215000h	-	-
Weight		-	130g	-
Cooling method		Natural air cooling		

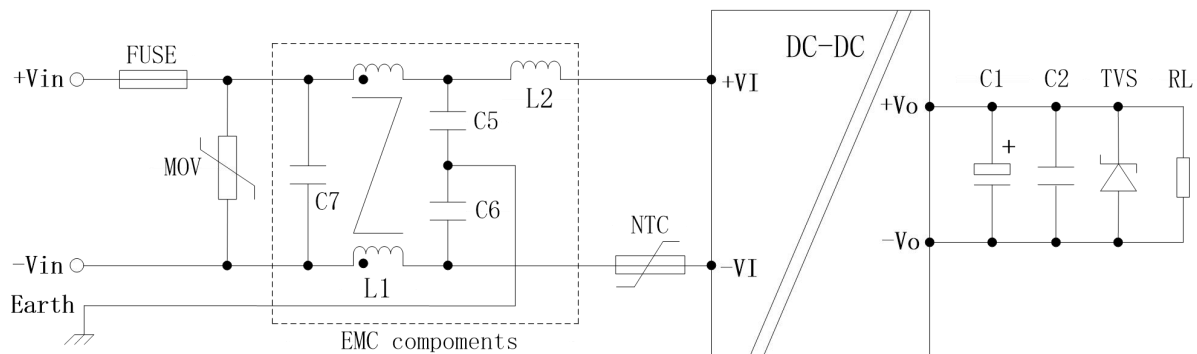
## Derating Curves



Comment: Both temperature derating and input voltage derating should be considered.

## Application Notes

### 1. Application circuit recommendation



## 2. Input part recommendation

Component	Function and description	Recommendation
FUSE	Cut off fault circuit	Required, 2A( $\geq 1000V$ ), time lag type is preferred
MOV	Absorb surge energy	Varistor, 152KD14
NTC	Limit the surge current	Negative temperature coefficient thermistor, 5D-9
C7	EMC component	Three 0.33 $\mu$ F safety X1 capacitors in series
L1	EMC component	Common mode inductor, $>10mH$
L2	EMC component	Differential mode inductor, 330 $\mu$ H
C5, C6	EMC component	Three 1nF safety Y1 capacitors in series

## 3. Output part recommendation

Output voltage	C1	C2	TVS	RL
5V	220 $\mu$ F/10V	1 $\mu$ F/50V	SMBJ7.0A	User load
12V	220 $\mu$ F/25V	1 $\mu$ F/50V	SMBJ20A	User load
15V	220 $\mu$ F/25V	1 $\mu$ F/50V	SMBJ20A	User load
24V	100 $\mu$ F/35V	1 $\mu$ F/50V	SMBJ30A	User load

### Remarks:

- C1: Output filter capacitor, high frequency low resistance electrolytic capacitor is recommended.
- C2: Ceramic capacitor, to suppress high frequency noise.
- TVS: Transient suppression diode, to protect post-stage circuit (user load).

### Notes:

- If not specified, the test condition is ambient temperature 25 $^{\circ}C$ , humidity  $< 75\%$ , input voltage 500VDC and output rated load.
- All parameters listed in the data sheet are tested according to the company's enterprise standards.
- Guangzhou Guantu Electronic Technology Co., Ltd. has the right of final interpretation of the copyright and product.
- This version is 2024.01 A0. The specification may be changed without notice.
- GTL POWER can provide product customization service, please contact us or visit <http://www.gtl-power.com> and provide more detail technical requirements.