

Pin PCB PAD recommendation

- Top/bottom paste/solder, D = 4mm
- Through hole, D = 1.3mm
- Four Vias, D = 0.4mm

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

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

## GH15(25)-V2Sxx-S-UL DC-DC Power Supply Module Ultra wide input, isolated single output

### Product Characteristics

- Ultra wide input voltage range, 300-1500VDC
- Designed based on safety standards (UL1741)
- Input and output isolation, 4000VAC
- Applications: photovoltaic power station, energy storage system, other high voltage input industrial equipment
- Input protection: UVP, 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=1000VDC)
			Vo	Io	
GH15-V2S05-S-UL	100*60*25mm	15W	5V	3000mA	69%
GH15-V2S12-S-UL			12V	1250mA	71%
GH15-V2S24-S-UL			24V	630mA	73%
GH15-V2S28-S-UL			28V	540mA	74%
GH15-V2S32-S-UL			32V	470mA	76%
GH25-V2S05-S-UL		20W	5V	4000mA	70%
GH25-V2S12-S-UL		25W	12V	2080mA	72%
GH25-V2S24-S-UL			24V	1040mA	74%
GH25-V2S28-S-UL			28V	890mA	75%
GH25-V2S32-S-UL			32V	780mA	77%

## Input Characteristics

Item	Test Condition / Description	MIN	TYP	MAX
Input voltage range	DC input	300VDC	1000VDC	1500VDC
Input current	Vin = 300VDC	-	-	130mA
	Vin = 1000VDC	-	-	50mA
Surge current	Vin = 300VDC	-	30A	-
	Vin = 1000VDC	-	100A	-
Input UVP	Input under voltage trigger point	-	250VDC	-
	Input under voltage released point	-	265VDC	-
Input reversed polarity protection	If input polarity is reversed, the PSM should not be damaged.	Available		
External input fuse	1A/1500VDC external input fuse	Required		

## Output Characteristics

Item	Test Condition / Description	MIN	TYP	MAX
Voltage accuracy		-	±2%	-
Line regulation	100%Io	-	±1%	-
Load regulation	10%-100%Io	-	±1%	-
Ripple and noise*1	20MHz bandwidth (Peak-peak value)	GH25-V2S05-S-UL		100mV
		Others models		200mV
OCP	Output over current protection	≥110%Io, Self recovery		
SCP*2	Output short circuit protection	Self recovery		
Minimum load		0	-	-
Start-up delay time	Vin = 300VDC	-	15s	-
	Vin = 1000VDC	-	5s	-
Hold-up time	Vin = 1000VDC, 100%Io	-	10ms	-
Hot plug		Prohibited		
Paralleled working		Prohibited		

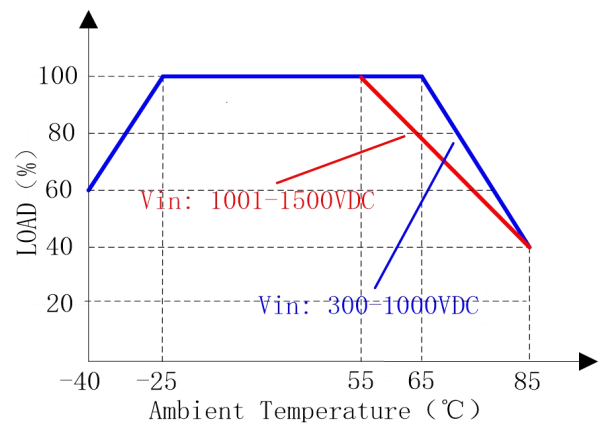
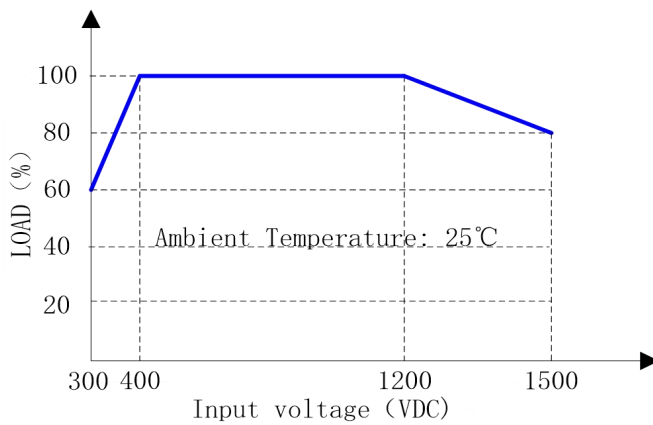
Remark \*1: Oscilloscope probe should be connected with the paralleled combination of a 10uF high frequency low resistance electrolytic capacitor and a 0.1uF ceramic capacitor.

Remark \*2: If input voltage is higher than 1000VDC, short circuit time shall be less than 3 seconds, otherwise PSM may be damaged.

## General Characteristics

Item	Test Condition / Description	MIN	TYP	MAX
Working temperature		-40°C	-	+85°C
Storage temperature		-40°C	-	+105°C
Storage humidity		-	-	95%RH
Switching frequency	Vin = 1000VDC, 100%Io	-	85kHz	-
Isolation voltage	Input to output, 60s, ≤5mA	4000VAC	-	-
MTBF	MIL-HDBK-217F@25°C	215000h	-	-
Weight		-	250g	-
Cooling method		Natural air cooling		

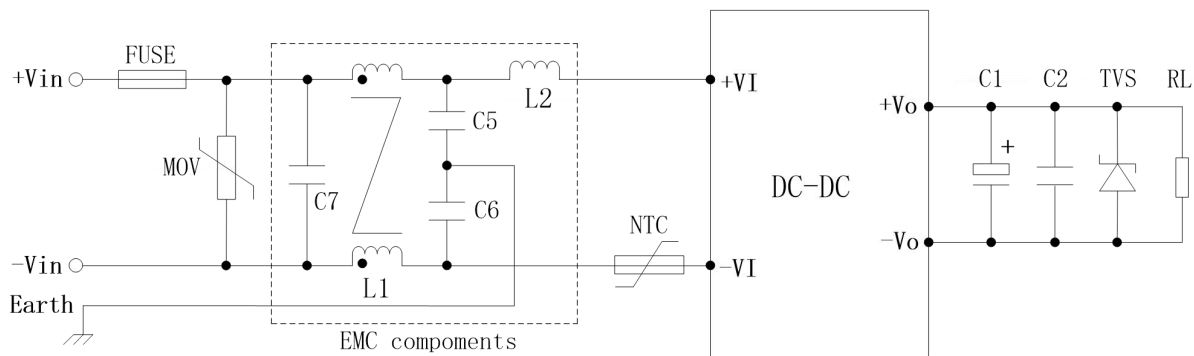
## Derating Curves



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, 1A/1500VDC, time lag type is preferred

MOV	Absorb surge energy	Varistor, two 112KD14 in series
NTC	Limit the surge current	Negative temperature coefficient thermistor, 5D-9
C7	EMC component, X-CAP	Four 0.33uF safety X1 capacitors in series
L1	EMC component	Common mode inductor, >10mH
L2	EMC component	Differential mode inductor, 330μH
C5, C6	EMC component	Three 1nF safety Y1 capacitors in series

### 3. Output part recommendation

Output voltage	C1	C2	TVS	RL
5V	220μF/10V	1μF/50V	SMBJ7.0A	User load
12V	220μF/25V		SMBJ20A	User load
24V	100μF/35V		SMBJ30A	User load
28V			SMBJ33A	User load
32V	100μF/50V		SMBJ40A	User load

#### Remarks:

- C1: Output filter electrolytic 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°C, humidity < 75%, input voltage 1000VDC and output rated load.
- All parameters listed in the data sheet are tested according to the company's enterprise standards.
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