

## GH150-V3Sxx-S-CE DC-DC Power Supply Module Ultra wide input, isolated single output

### Product Characteristics

- Ultra wide input voltage range, 300-1500VDC
- Standard, CE (EN62109-1)
- Input and output isolation, 4000VDC
- Applications: photovoltaic power station, energy storage system, other high voltage input industrial equipment
- Input reversed polarity protection, UVP
- Output protection, OCP and SCP
- No minimum load requirement

### Model Selection Table

Model	Dimensions (L*W*H)	Rated power	Rated output voltage/current		Typical efficiency ( $V_{in}=1000VDC$ )
			$V_o$	$I_o$	
GH150-V3S12-S-CE	170.0*113*42.8mm	100W	12V	10000mA	80%
GH150-V3S15-S-CE			15V	8000mA	82%
GH150-V3S24-S-CE		150W	24V	6250mA	83%
GH150-V3S28-S-CE			28V	5350mA	85%
GH150-V3S32-S-CE			32V	4680mA	86%
GH150-V3S48-S-CE			48V	3120mA	88%

## Input Characteristics

Item	Test Condition / Description	MIN	TYP	MAX
Input voltage range	DC input	300VDC	1000VDC	1500VDC
Input current	Vin = 1000VDC	-	270mA	-
Surge current	Vin = 300VDC	-	300A	-
Input UVP	Input under voltage trigger point	-	250VDC	-
	Input under voltage released point	-	265VDC	-
Input reversed polarity protection	If input polarity is reversed, the PSU should not be damaged	Available		
External input fuse		Required		

## Output Characteristics

Item	Test Condition / Description	MIN	TYP	MAX
Voltage accuracy		-	±2%	-
Line regulation	100%Io	-	±1.5%	-
Load regulation	10%-100%Io	-	±1.5%	-
Ripple and noise*1	20MHz bandwidth (Peak-peak value)	-	400mV	-
OCP	Output over current protection	≥110%Io, Self recovery		
SCP*2	Output short circuit protection	Self recovery		
Minimum load		0	-	-
Start-up delay time		-	2s	-
Hold-up time		-	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.

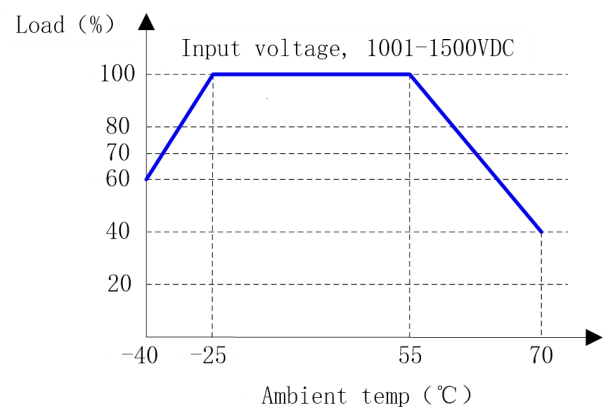
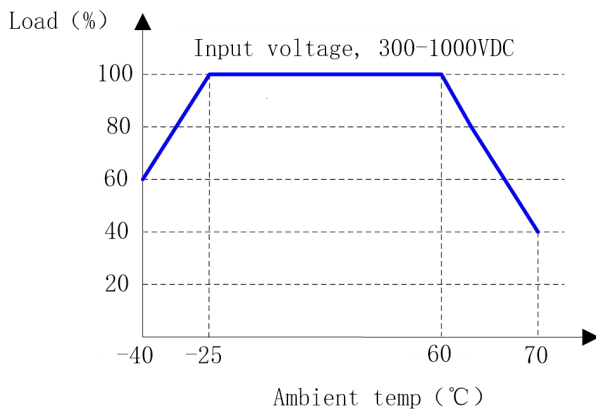
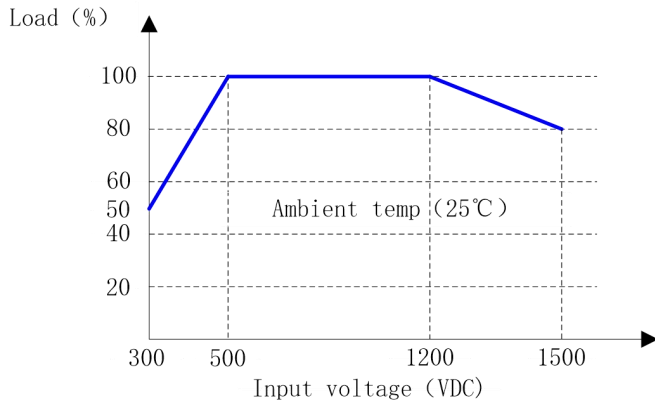
Remark \*2: If input voltage is higher than 1200VDC, short circuit time shall be less than 3 seconds, otherwise PSM may be damaged.

## General Characteristics

Item	Test Condition / Description	MIN	TYP	MAX
Working temperature		-40°C	-	+70°C
Storage temperature		-40°C	-	+85°C
Storage humidity		-	-	95%RH
Switching frequency		-	65kHz	-
Isolation voltage	Input to output, 60s, ≤5mA	4000VDC	-	-

MTBF	MIL-HDBK-217F@25°C	215000h	-	-
Weight		-	1300g	-
Cooling method	Forced air cooling is recommended	Natural air cooling		

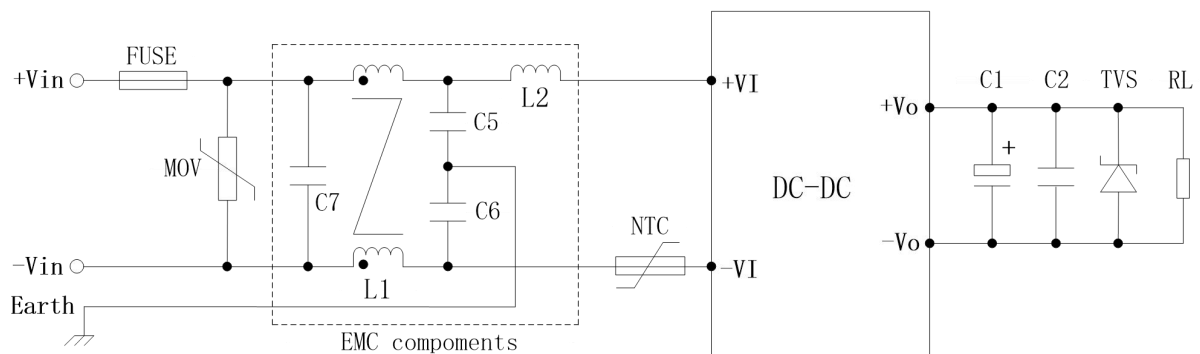
## Derating Curves



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, 5A, time lag type is preferred
NTC	Limit the surge current	Negative temperature coefficient resistor, 5D-20
MOV	Absorb surge energy	Varistor, two 112KD14 MOVs in series
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
12V	680μF/25V	1μF/50V	1.5KE18CA	User load
15V	680μF/25V	1μF/50V	1.5KE20CA	
24V	470μF/35V	1μF/50V	1.5KE30CA	
28V	470μF/35V	1μF/50V	1.5KE36CA	
32V	220μF/50V	1μF/50V	1.5KE39CA	
48V	100μF/63V	1μF/100V	1.5KE62CA	

### 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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