

GH60-CNxx

DC-DC Power Supply Module

Ultra wide input, isolated single output

Product Characteristics

- Ultra wide input voltage range, 80-800VDC
- Standard, CE (EN62477-1)
- Input and output isolation, 4000VDC
- Applications: energy storage system, photovoltaic power station, other high voltage input industrial equipment
- Input reversed polarity protection
- 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 (Vin=400VDC)
			Vo	Io	
GH60-CN12	134*66*40mm	60W	12V	4160mA	80%
GH60-CN15			15V	4000mA	81%
GH60-CN24			24V	2500mA	81%
GH60-CN28			28V	2140mA	82%
GH60-CN32			32V	1870mA	82%

Input Characteristics

Item	Test Condition / Description	MIN	TYP	MAX
Input voltage range	DC input	80VDC	400VDC	800VDC
Input current	Vin = 400VDC, Output full load	-	-	270mA
Surge current	Vin = 80VDC	-	50A	-

Input reversed polarity protection	If input polarity is reversed, the PSU should not be damaged	Available
External input fuse		Required

Output Characteristics

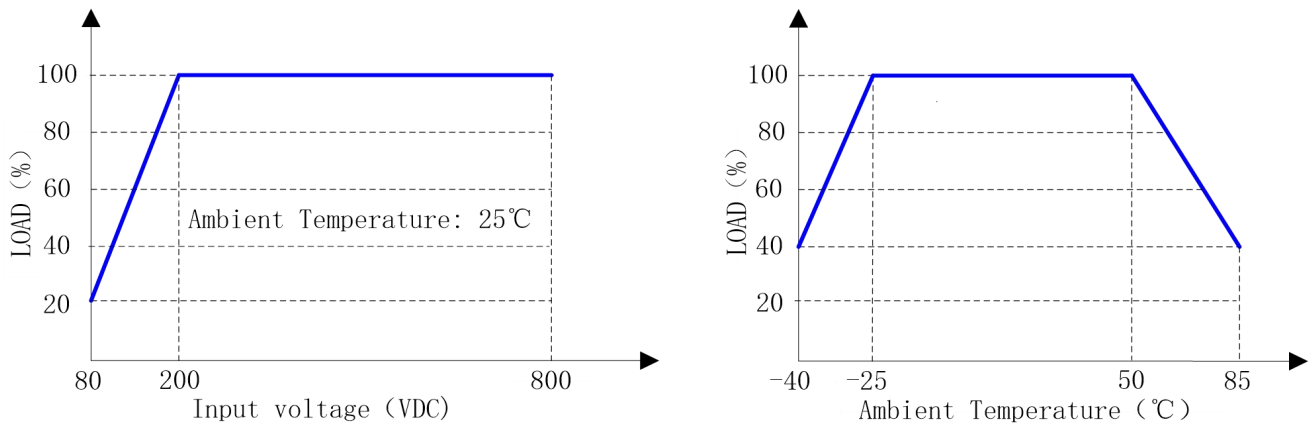
Item	Test Condition / Description	MIN	TYP	MAX
Voltage accuracy		-	±2%	-
Line regulation	100%Io	-	±1%	-
Load regulation	10%-100%Io	-	±1%	-
Ripple and noise*1	20MHz bandwidth (Peak-peak value)	Vo: 12 to 15VDC	100mV	200mV
		Vo: 24 to 32VDC	240mV	480mV
OCP	Output overcurrent protection	≥110%Io, Self recovery		
SCP	Output short circuit protection	Self recovery		
Minimum load		0	-	-
Start-up delay time		-	6s	-
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.

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		-	65kHz	-
Isolation voltage	Input to output, 60s, ≤5mA	4000VDC	-	-
MTBF	MIL-HDBK-217F@25°C	215000h	-	-
Weight		-	540g	-
Cooling method		Natural air cooling		

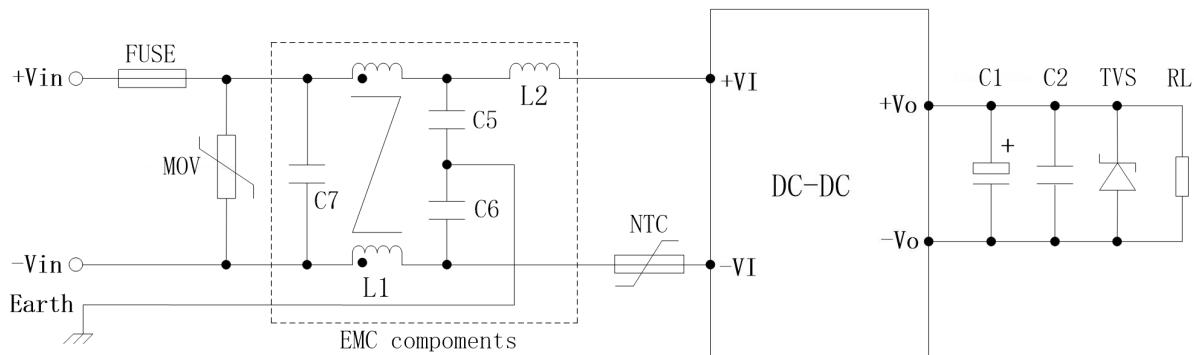
Derating Curves



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, 3A/1000VDC, time lag type is preferred
NTC	Limit the surge current	Negative temperature coefficient resistor, 5D-20
MOV	Absorb surge energy	Varistor, 112KD14
C7	EMC component, X-CAP	Two 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	Two 1nF safety Y1 capacitors in series

3. Output part recommendation

Output voltage	C1	C2	TVS	RL
12V	220 μ F/25V	1 μ F/50V	1.5KE18CA	User load
15V	220 μ F/25V	1 μ F/50V	1.5KE20CA	User load
24V	100 μ F/35V	1 μ F/50V	1.5KE30CA	User load
28V	100 μ F/50V	1 μ F/50V	1.5KE36CA	User load
32V	100 μ F/50V	1 μ F/50V	1.5KE39CA	User load

Remarks:

- a. C1: Output filter electrolytic capacitor, high frequency low resistance electrolytic capacitor is recommended.
- b. C2: Ceramic capacitor to suppress high frequency noise.
- c. 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 400VDC and output rated load.
- All parameters listed in the data sheet are tested according to the company's enterprise standards.
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