AIPULNION®

BK150-800SXXGA1N6

Typical Features

- ◆ 6:1 wide input voltage range: 250-1500VDC
- ◆ Input Anti-reverse connection, under voltage protection
- ◆ Output over current, over voltage, short circuit protection.
- ◆ Input-Output Isolation voltage: 4000VAC
- ◆ High efficiency, high reliability, low ripple and noise
- ◆ Apply for PV power generation and high voltage frequency conversion
- ◆ Working temperature: -40℃- +85℃
- ◆ Industrial-grade technology design, international standard dimension
- ◆ ETL certified (UL1741)

Application Field

BK150-800SXXGA1N6 *series -- 250-1500VDC ultra-high voltage input high-efficiency and high-reliability DC-DC switching regulated power supply module, can be widely used in photovoltaic power generation and high voltage frequency conversion occasions to provide a stable working voltage for load equipment , and its own multiple protection functions can improve the safety performance of the power supply and its load in the case of abnormal operation of the module power supply. When the product is used in the environment with harsh electromagnetic compatibility, it must be implemented with reference to the application circuit.*

Typical Product List

Certificate	Part No	Output Power	Output Voltage & Current		Output Efficiency	Maxi. Capacitive Load
			Voltage	Current		
		(W)	(V)	(mA)	800VDC %/ /TYP	(uF)
ETL	BK150-800S24GA1N6	150	24	6250	88%	1500
	BK150-800S28GA1N6		28	5360	89%	1500
	BK150-800S32GA1N6		32	4690	90%	1000
	BK150-800S35GA1N6		35	4290	90%	1000

Note 1: Due to limited space, the above is only a partial list of products, if you need products other than the list, please contact our sales department.

Note 2: The typical output efficiency is based on that product is full loaded and burned-in after half an hour.

Note 3: The fluctuation range of full load efficiency(%,TYP) is ±2%, full load output efficiency= total output power/module's input power.

Input Specification

Item	Operating Condition	Min.	Typ.	Max.	Unit
Input Voltage Range	--	250	800	1500	VDC
		Relation for input voltage and load could refer to Input Voltage Derating Curve at back			
Input Current	250VDC @75% load	/	/	800	mA
	800VDC @100% load	/	/	400	
	1500VDC @100% load	/	/	300	

Input under voltage Protection	Protection start		130	--	190	VDC
	Protection release		160	--	220	
Input no load current	output no load		--	--	--	mA
Recommended value of external fuse	--		4A/1500VDC slow fusing, necessary			

Output Specification

Item	Operating Condition		Min.	Typ.	Max.	Unit
Voltage Accuracy	0%-100% load		--	±2.0	±3.0	%
Minimum Load	Full input nominal voltage		10	--	--	
Line regulation			--	±1.0	±1.5	
Load regulation	20%-100% rated load		--	±2.0	±3.0	
Ripple & Noise	20MHz bandwidth (Peak-Peak)		--	--	300	mV
Temperature Coefficient	--		--	±0.03	--	%
Startup Delay Time	Normal temperature@ output full load		--	3000	--	mS
Power off holding Time	Normal temperature @ output full load	800VDC I/P	--	50	--	
		1500VDC I/P	--	50	--	
Startup overshoot	0%~100% load		--	--	10	%
Dynamic Response overshoot range	25%-50%-25% 50%-75%-50%		--	±5.0	±6.0	
Dynamic Response recovery time			--	--	500	mS
O/P Protection	Over current	Full input voltage range	⩾110% Io, Hiccup, self recovery			
	Over voltage		Feedback clamp limit			
	Short circuit		Continuous short circuit protection @hiccup mode			

General Specification

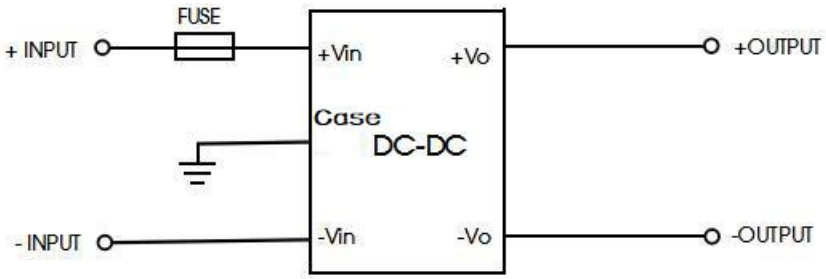
Item		Operating Condition	Min.	Typ.	Max.	Unit
Isolation Voltage	I/P-O/P	Test 1min, leakage current ≤ 5mA	4000	--	--	VAC
	I/P to PE	Test 1min, leakage current ≤ 5mA	4000	--	--	VAC
Insulation resistance	I/P-O/P	500VDC	--	100	--	MΩ
Operating Temperature		--	-40	--	+85	℃
		You need to perform temperature derating based on the temperature derating curve. Derating according to “Derating curve” at back				
Storage Temperature		--	-40	--	+105	

Temperature rise of Case	Ta=30℃@ output 100% load	--	54	--	
Storage humidity	--	--	--	95	%RH
Soldering Temperature	Wave-soldering	260±5℃, time: 5-10S			
	Manual-welding	400±10℃, time: 4-10S			
Switching Frequency	--	--	65	--	KHz
Altitude	--	--	--	2000	m
MTBF	--	SR-332@25℃＞250000H			

Physical Specifications

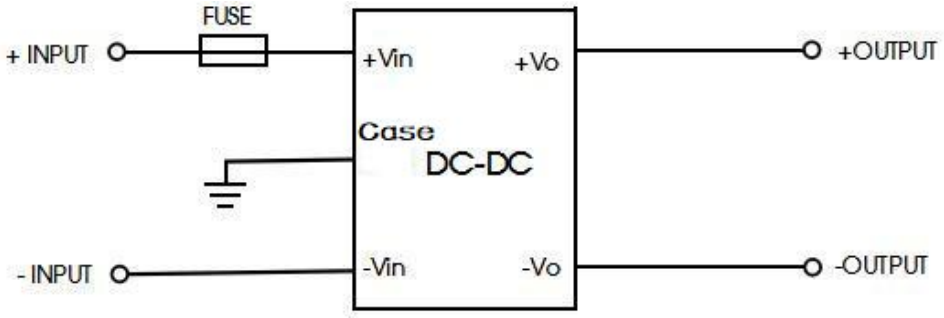
Case Material		Metal case
Dimension	Horizontal package	201.0X70.0X42.0mm
Weight		550g
Cooling Method		Natural air cooling

Design Reference



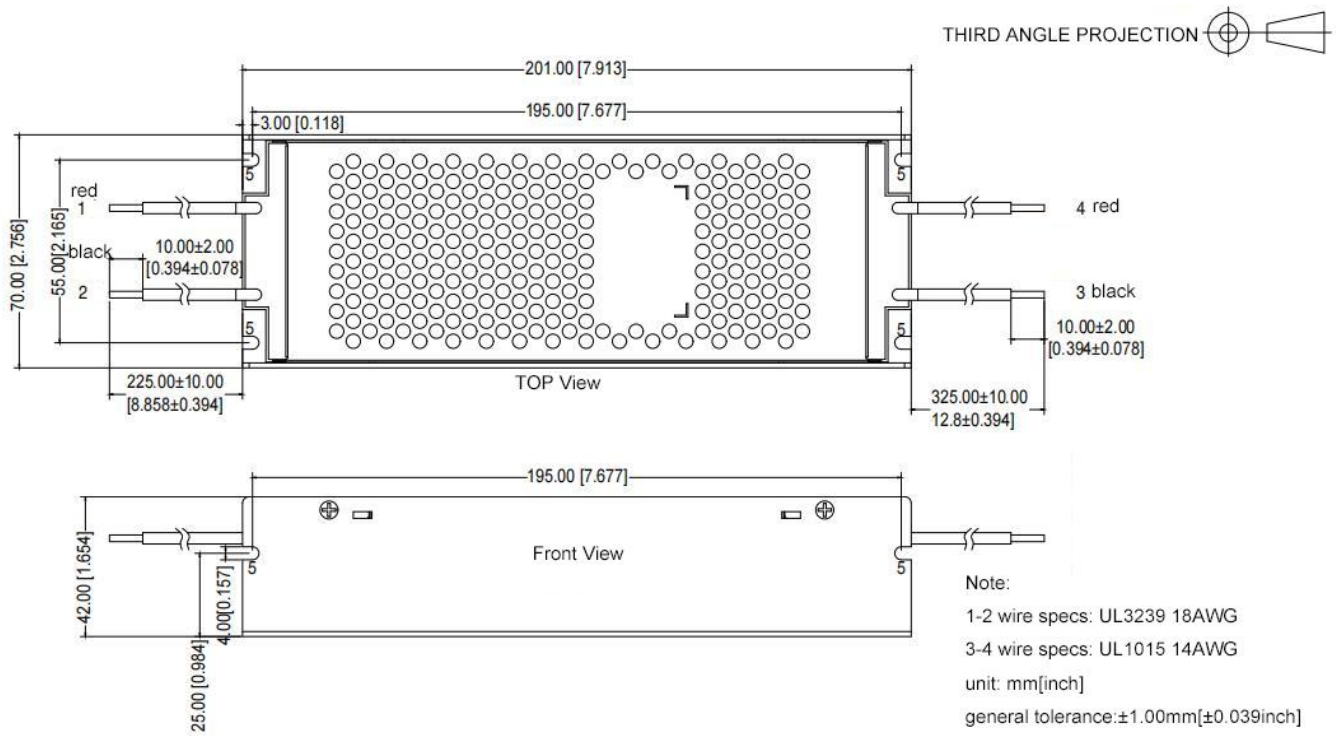
Output Voltage	FUSE
28V	4A/1500VDC necessary
24V	

EMC Recommended Circuit



Components	Function	Recommended Value	Note
FUSE	Fusing when converter is abnormal, cut off protection	According to customer's choose for actual input current	Necessary

Dimension and Pin-Function



Pin-out	1	2	3	4	5	-
Single(S)	+Vin	-Vin	-Vo	+Vo	PE	-

Dimension

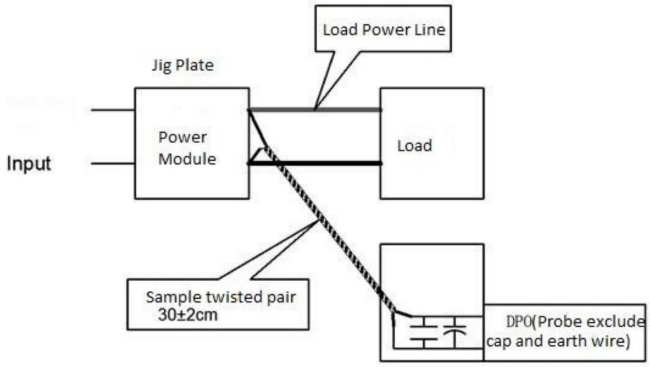
Packing code	L x W x H	
GA1N6	201.0X70.0X42.0mm	7.906X2.750X1.656inch

Ripple& Noise Test: (Twisted Pair Method 20MHZ bandwidth)

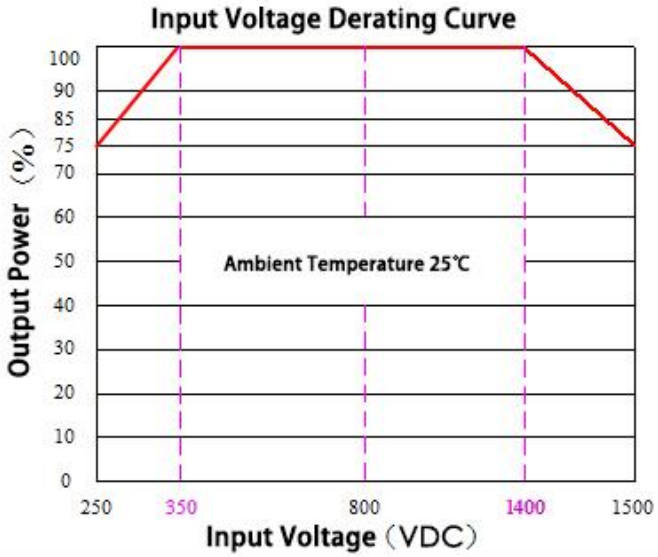
Test Method:

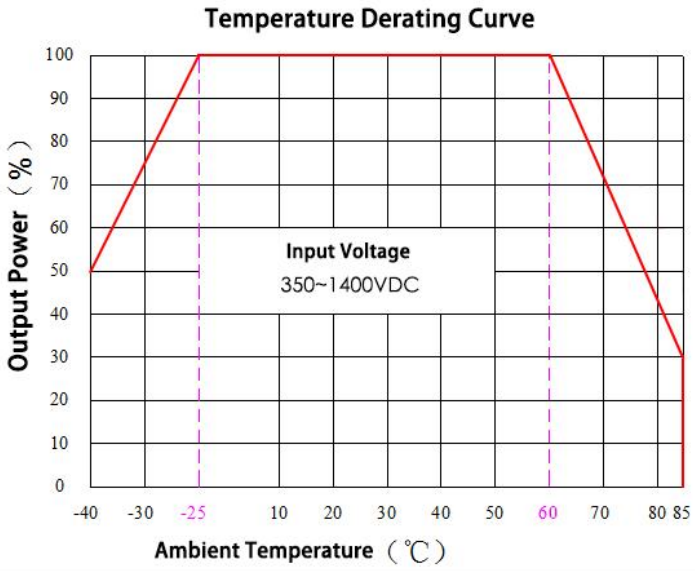
(1) 12# twisted pair to connect, Oscilloscope bandwidth set as 20MHz, 100M bandwidth probe, terminated with 0.1uF polypropylene capacitor and 10uF high frequency low resistance electrolytic capacitor in parallel, oscilloscope set as Sample pattern.

(2) Input terminal connect to power supply, output terminal connect to electronic load through jig plate, Use 30cm±2 cm sampling line, Power line selected from corresponding diameter wire with insulation according to the flow of output current.



Product Characteristic Curve





Note:

1.The product should be used under the specification range, otherwise it will cause permanent damage to it.

2.Product's input terminal should connect to fuse;

3.If the product operated below the minimum load request, we cannot ensure that the performance of product is in accordance with all the indexes in this manual;

4.If the product worked beyond the load range, we cannot ensure that the performance of product is in accordance with all the indexes in this manual;

5.Unless otherwise specified, data in this datasheet are tested under conditions of **Ta=25**℃, **humidity<75%** when inputting nominal voltage and outputting rated load(pure resistance load);

6.All index testing methods in this datasheet are based on our Company's corporate standards.

7.The performance indexes of the product models listed in this manual are as above, but some indexes of non-standard model products will exceed the above-mentioned requirements, please directly contact our technician for specific information;

8.We can provide customized product service;

9.The product specification may be changed at any time without prior notice.