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℃- +70℃
- ◆ Meet the altitude requirement of 5000m above sea level
- ◆ Industrial-grade technology design, international standard dimension

Application Field

BK150-800SXXGB1N6 *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

Part No	Output Power	Output voltage/current		Output Efficiency	Maxi. Capacitive Load
		Voltage	Current	800VDC %/ /TYP	(uF)
	(W)	(V)	(m A)		
BK150-800S24GB1N6	150	24	6250	88	3000
BK150-800S28GB1N6		28	5360	89	2000

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	/	/	1000	mA
	800VDC @100% load	/	/	400	
	1500VDC @100% load	/	/	300	
Input under voltage	Protection start	150	--	220	VDC

Protection	Protection release	160	--	250	
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

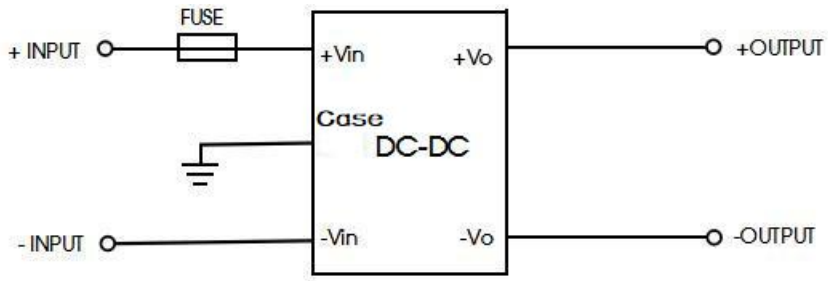
Item		Operating Condition	Min.	Typ.	Max.	Unit
Isolation Voltage	I/P-O/P	Test 1min, leakage current≤5.0mA	4000	-	-	VAC
Insulation resistance	I/P-O/P	500VDC	--	100	-	MΩ
Operating Temperature		--	-40	--	+70	℃
		You need to perform temperature derating based on the temperature derating curve. Derating according to “Derating curve” at back				
Storage Temperature		--	-40	--	+85	

Temperature rise of Case	Ta=30℃@ output 100% load	--	54	--	
Relative 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+ Plastic case
Dimension	Horizontal package	168.0X111.2X42.5mm
Weight		945g
Cooling Method		Free air convention

EMC Recommended Circuit Design Reference



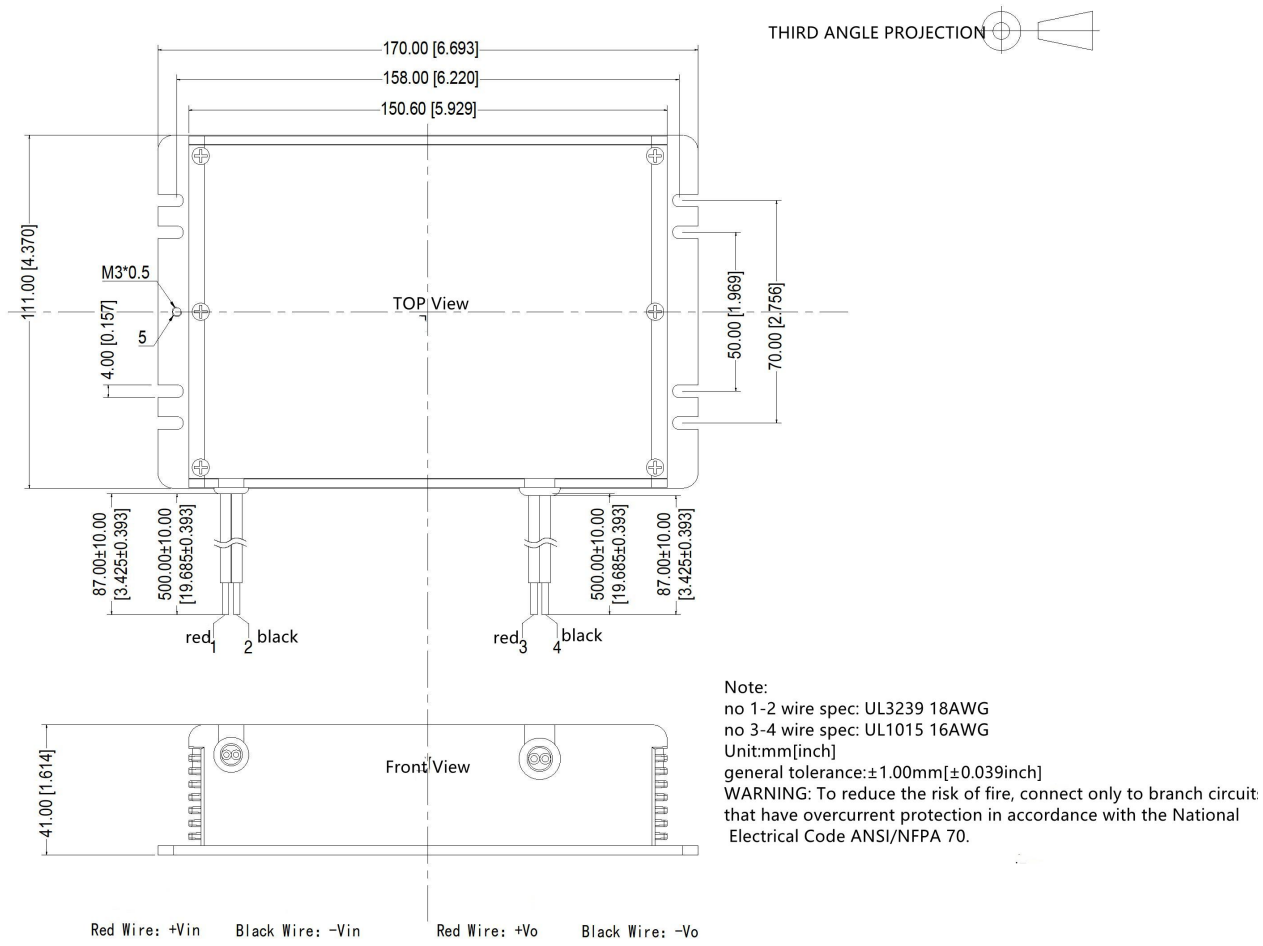
Output Voltage	FUSE
28V	4A/1500VDC necessary
24V	

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

EMC Characteristics

Total Items		Sub-Items	Standard	Class
EMC	EMI	CE	CISPR32/EN55032	CISPR32/EN55032 CLASS A
		RE	CISPR32/EN55032	CISPR32/EN55032 CLASS A
	EMS	RS	IEC/EN61000-4-3	IEC/EN61000-4-3 10V/m Perf. Criteria A
		CS	IEC/EN61000-4-6	IEC/EN61000-4-6 10Vr.m.s Perf. Criteria A
		ESD	IEC/EN61000-4-2	IEC/EN61000-4-2 Contact ±6KV/Air ±8KV Perf. Criteria B
		Surge	IEC/EN61000-4-5	IEC/EN61000-4-5 line to line ±1KV/ line to ground ±2KV Perf. Criteria B
		EFT	IEC/EN61000-4-4	IEC/EN61000-4-4 ±2KV Perf. Criteria B

Dimension and Pin-Function



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

Dimension

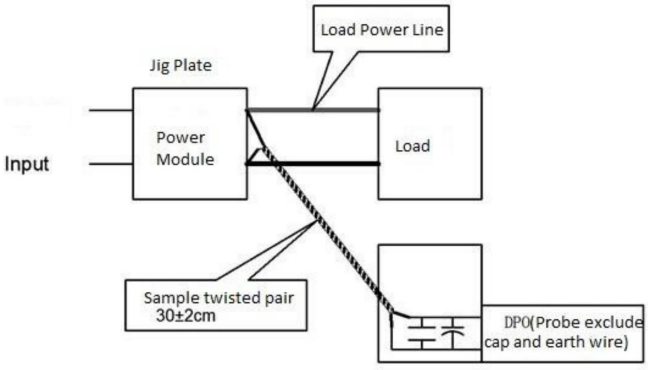
Packing code	L x W x H	
GB1N6	168.0X111.2X42.5mm	6.614X4.378X1.673inch

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

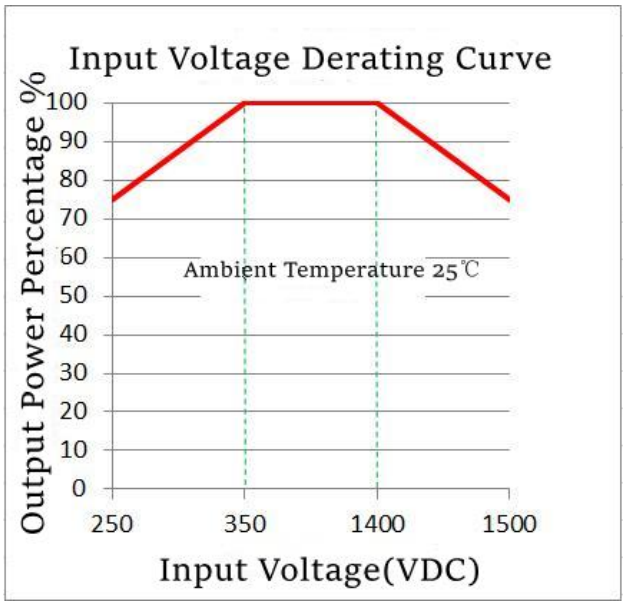
Test Method:

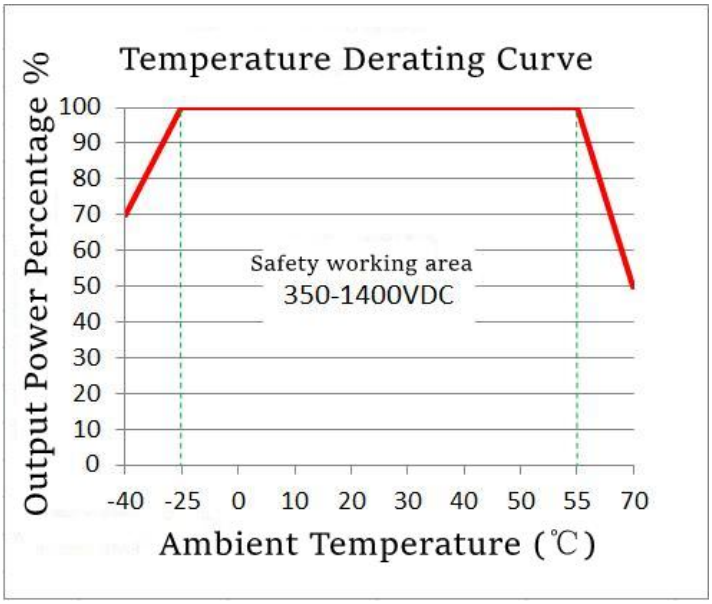
(1) 12# twisted pair to connect, Oscilloscope bandwidth set as 20MHz, 100M bandwidth probe, terminated with 0.1uF polypropylene capacitor and 10uF high frequency low resistance electrolytic capacitor in parallel, oscilloscope set as Sample pattern.

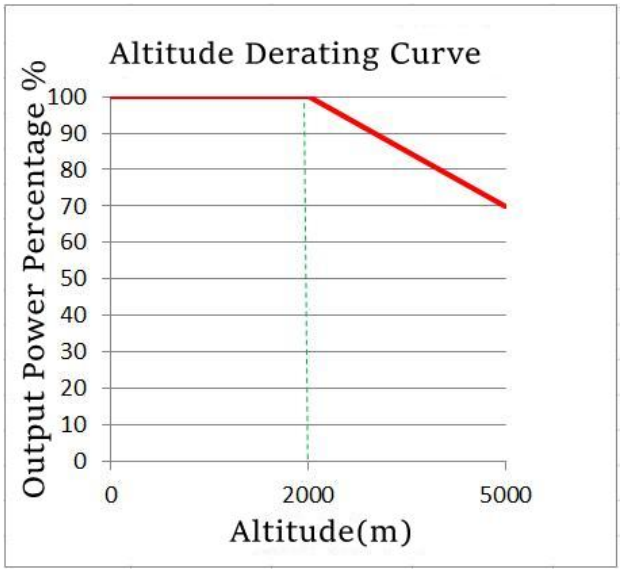
(2) Input terminal connect to power supply, output terminal connect to electronic load through jig plate, Use 30cm±2 cm sampling line, Power line selected from corresponding diameter wire with insulation according to the flow of output current.



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);