

規格書


SPECIFICATION

品名 SWITCHING POWER SUPPLY
STYLE NAME :

型號 BN1H-5750V
MODEL NO. :

料號
PART NO. :

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Revision

Rev.	Page	Item	Date	Description
A2	8	4.2.4	JUL-23-2010	ADD 4.2.4 Over current protection
A3	5	1.0 2.0 3.0	DEC-23-2011	VIN voltage modify

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1.0 Scope

This specification defines the performance characteristics of a grounded , single-phase , 750 watts(at 18V only 600W) , 5 output level power supply. This specification also defines world wide safety requirements and manufactures process test requirements.

2.0 Input requirements

2.1 Voltage

Range	18 ~ 36 VDC
Nomal	24VDC

2.2 Steady-state current

18 ~ 36 VDC / 42 ~ 26 amp (39 amp at 24VDC)

2.3 Inrush current

100 amps @ 24VDC (at 25 degrees ambient cold start)

3.0 Output requirements

3.1 DC load requirements

Normal Output voltage	Load current		Regulation tolerance	
	Max.	Min	Max.	Min.
+12V	60	0	+5%	-5%
+5V	25	0	+5%	-5%
+3.3V	25	0	+5%	-5%
-12V	0.8	0.0	+5%	-5%
+5VSB	3.5	0.1	+5%	-5%

*** +5V AND +3.3V Total Max.:40A ***

*** Total output Max : 750W(at 18V only 600W) ***

When doing the cross regulation test(one output channel at high load and the other output channels at low load), it is requested to set the higher output channel at 80% max. of its spec., and the lower output channels at 20% max. of theirs.

3.2 Line Regulation

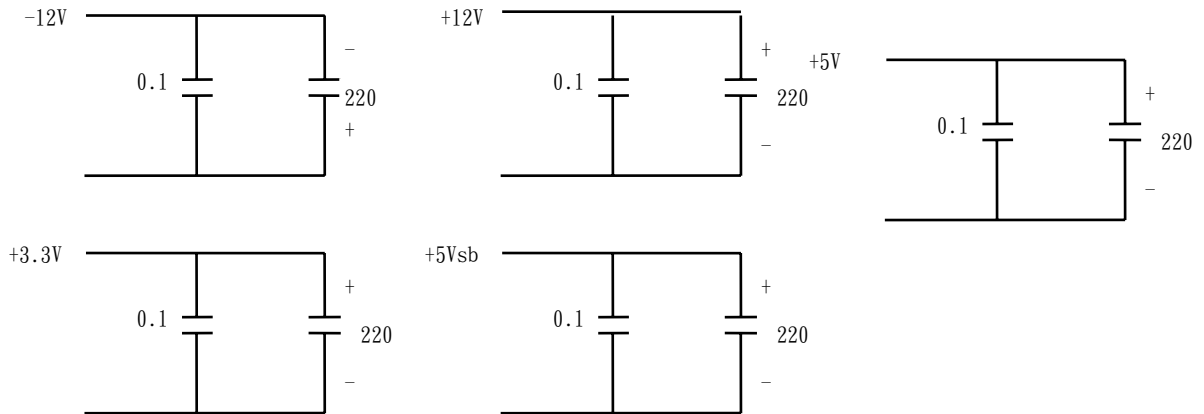
Output DC voltage	Line regulation
+12V	±1%
+5V	±1%
+3.3V	±1%
-12V	±1%
+5VSB	±1%

3.3 Ripple and noise

3.3.1 Specification

+12V	120mV (P-P)
+5V	50mV(P-P)
+3.3V	50mV(P-P)
-12V	120mV (P-P)
+5VSB	50mV (P-P)

3.3.2 Ripple voltage test circuit



0.1uf is ceramic, the other is tantalum.

Noise bandwidth is from DC to 20Mhz

3.4 Overshoot

Any overshoot at turn on or turn off shall be less than 10% of the nominal voltage value , all output shall be within the regulation limit of section 3.1 before issuing the power good signal of section 6.0.

3.5 Efficiency

Power supply efficiency >80% at 24V , full load.

3.6 Remote on/off control

The power supply DC outputs (with the exception of +5VSB) shall be enabled with an active-low , TTL-compatible signal(“PS-ON”)

When PS-ON is pulled to TTL low , the DC outputs are to be enabled.

When PS-ON is pulled to TTL high or open circuited , the DC outputs are to be disabled.

4.0 Protection

4.1 Input (primary)

The input power line must have an over power protection device in accordance with safety requirement of section 8.0

4.2 Output (secondary)

4.2.1 Over power protection

The power supply shall provide over power protection on the power supply latches all DC output into a shutdown state. Over power of this type shall cause no damage to power supply , after over load is removed and a power on/off cycle is initiated , the power supply will restart.

Trip point total power min. 110% , max. 160%.

4.2.2 Over voltage protection

If an over voltage fault occurs (internal of the power supply) , the power supply will latch all DC output into a shutdown state before

	Min	Typical	Max
+3.3V	3.6V	4.1V	4.3V
+5V	5.6V	6.1V	6.5V
+12V	13.2V	14.3V	15.0V

4.2.3 Short circuit (This has to test the modules and backplane together)

A: A short circuit placed on any DC output to DC return shall cause no damage.

B: The power supply shall be latched in case any short circuit is taken place at +12V,+5V,+3.3V,-12V output.

4.2.4 Over current protection

If an over current fault occurs , the power supply will latch all DC output into a shutdown state.

	Min	Typical	Max
+3.3V	27.5A	25A	37.5A
+5V	27.5A	25A	37.5A
+12V	66A	60A	90A

5.0 Power supply sequencing

5.1 Power on (see fig.1)

5.2 Hold up time

When power shutdown DC output 12V must be maintain 1msec in regulation limit at normal input voltage.

5.3 Power off sequence (see fig. 1)

6.0 Signal requirements

6.1 Power good signal (see fig. 1)

The power supply shall provide a "power good" signal to reset system logic , indicate proper operation of the power supply , and give advance warning of impending loss of regulation at turn off. This signal shall be a TTL compatible up level (2.4V to 5.25V) when +12V output voltage are present and above the minimum UV sense levels specified in paragraph 6.2 , or a down level (0.0V to 0.8V) when any output is below its minimum UV sense level.

At power on , the power good signal shall have a turn on delay of at least 100ms but not greater than 500ms after the output voltages have reached their respective minimum sense levels.

6.2 Under voltage (UV) sense levels

Output	Minimum sense voltage
+12V	+8.0V

7.0 Environment

7.1 Temperature

Operating temperature	0 to 50 degrees centigrade
Non-Operating temperature	-20 to 80 degrees centigrade
Safety regulation temperature	Applied at room temperature (25°C)
Operating temperature from 0°C should start from DC 24V	

7.2 Humidity

Operating humidity	20% to 80%
Non-operating humidity	10% to 90%

8.0 Reliability

8.1 Burn in

All products shipped to customer must be processed by burn-in.
The burn- in shall be performed for 1 hour at full load.

9.0 Mechanical requirements

Physical dimension : 40.5 mm * 100 mm * 225mm (D *W* H)

10.0 DC output cable drawing

(see attached drawing)

Vn	Nominal voltages +5V
Vm	Minimum voltages +4.5V
Va	Nominal voltages +3.3V
Tson	Switch on time(3000ms. Max)
Trs	+5V rise time (100ms. max.)
Tdon	Delay turn-on (100ms. < Tdon < 500ms.)
Toff	Hold up time (1ms. min.)
Tdoff	Delay turn-off (1 ms. min.) (While use remote ON/OFF)

《Figure 1》