全漢企業股份有限公司
FSP GROUP FSP TECHNOLOGY INC.
台灣桃園市建國東路22號 統一編號：84239055
No. 22, Jianguo East Road., Taoyuan City, Taiwan, R.O.C.
TEL:+886-3-375-9888 Website：www.FSP-group.com
FAX:+886-3-375-6966 Email：sales@fsp-group.com.tw

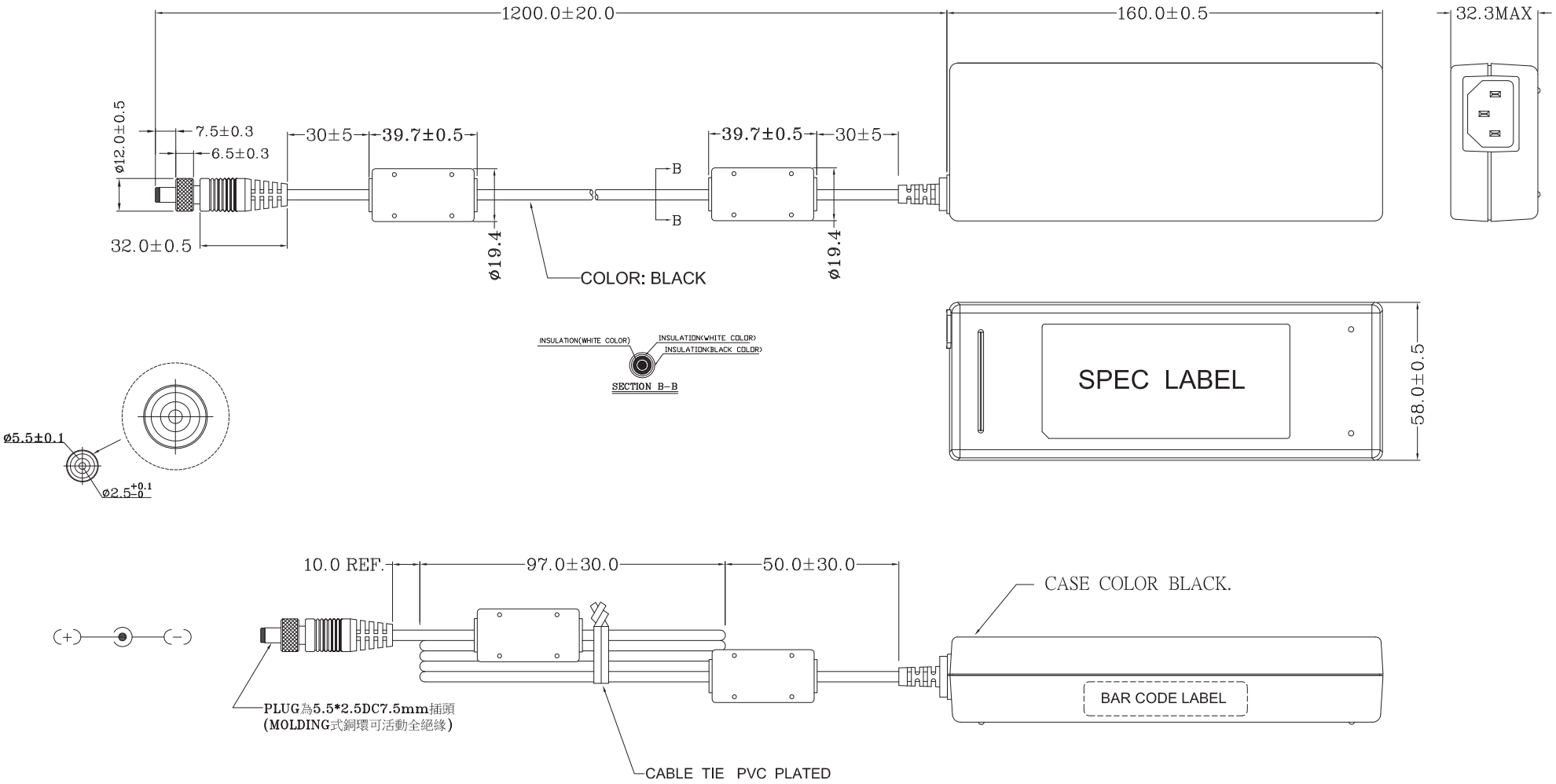
MECHANICAL DRAWING

OAD15013992

9NA0840527/G.P,FSP084-DIBAN2(F66631)

Released Date:2015/03/23-18:44:25

全漢企業股份有限公司
FSP GROUP FSP TECHNOLOGY INC.



P/N.:9NA0840527

MODEL NO.:G.P,FSP084-DIBAN2(F66631)	TITLE: ASSY		SHEET: 1 OF 1 REV:01
R&D(5)	PE	DRAWN	DATE
SEJ	Victoryu	ANGELH	MAR.18.2015
INTERIOR COUNTERSIGN:			陳定伶Athena

未標註之公差值為±0.5
UNIT:mm

Mechanical Drawing(外觀/機構圖)

全漢企業股份有限公司
FSP TECHNOLOGY INC.
台灣桃園市桃園區建國東路22號　統一編號：84239055
No. 22, Jianguo E. Rd., Taoyuan Dist., Taoyuan City 330, Taiwan (R.O.C)
TEL:+886-3-375-9888　Website:www.FSP-group.com
FAX:+886-3-375-6966　Email:sales@fsp-group.com.tw

SPECIFICATION

ESD12078605

FSP084-DIBAN2

Released Date:2015/10/07-13:14:06

Electrical Specification Revision History:

Rev	Description	Date
1.0	SPEC ISSUE	DEC,17,12”
2.0	ADD 4.6	JAN,21,13”
3.0	CHANGE 5.5	FEB,05,13”

Table of Content

Section

1.0 GENERAL DESCRIPTION AND SCOPE

This is the specification of Model FSP084-DIBAN2; AC-DC adapter switching power supply designed and manufactured by FSP GROUP, INC. located in Taiwan, Republic of China.

The specification below is intended to describe as detailedly as possible the functions and performance of the subject power supply. Any comment or additional requirements to this specification from our customers will be highly appreciated and treated as a new target for us to approach.

2.0 OUTPUT ELECTRICAL REQUIREMENTS

2.1 OUTPUT RATING

Output	Nominal	Regulation	Ripple/Noise	Min	Max
1	**+12.0V**	11.4V~12.6V	**150mV**	**0A**	**7.0A**

The total output regulation shall be ±5%, including the effects of line voltage variations, load current, ripple and noise, and the AC component of the load current. Ripple and noise measurements shall be made under all specified load conditions through a single Pole low pass filter with 20MHz cutoff frequency. Outputs shall bypass at the connector with a 0.1uF ceramic disk capacitor and a 47uF electrolytic capacitor to simulate system loading.
Ripple Noise test condition: At a static state input voltage ,Vin:90Vac ~ 264Vac,output at Max Current.

2.2 SHORT CIRCUIT PROTECTION

Output can be shorted without damage, and auto recovery.

2.3 OVER-CURRENT PROTECTION

Output current limit : 10.5A(Max) at 115Vac & 230Vac & C. C. Mode.

2.4 TURN-ON DELAY TIME

The turn-on delay from application of AC input power to the establishment of rated DC power voltage should not exceed 3.0 seconds under at 115Vac full load and C.C mode test.

2.5 HOLD UP TIME

20mS minimum. Tested 115Vac input and max load at output.

2.6 DYNAMIC LOAD REGULATION

Output Change between 10% and 50% or 50% and 90% of full load, slew rate is 0.5 ~ 1.0A/uS.
High : 1.0mS,Low : 1.0mS, 11.4Vdc < Vout < 12.6Vdc.

2.7 OVERSHOOT

The output overshoot at turn-on shall not exceed 10% of normal voltage value with or without the load connected.

2.8 OVER VOLTAGE PROTECTION

The voltage will not exceed the upper trip limit with latch up function at full load.

Output Voltage	Upper trip limit	Remark
11.4Vdc ~ 12.6Vdc	18Vdc	Only internal test(short U2's Pin 1-2).

2.9 POWER FACTOR

The Power Factor should be over 90% at Vin:115Vac & 230Vac and full load .

2.10 NO LOAD POWER CONSUMPTION

No Load Power Consumption:Input Power should be under 0.21W at Vin:115Vac & 230Vac .

3.0. INPUT ELECTRICAL SPECIFICATIONS

3.1 INPUT VOLTAGE RANGE

PARAMETER	MIN.	NOM.	MAX.	UNITS
V-in Range	90V	115/230	264V	V-rms

3.2 INPUT FREQUENCY

47 - 63Hz

3.3 INRUSH CURRENT

The cold inrush current must not cause the input fuse to open or cause damage to components.

3.4 STEADY AC CURRENT

115Vac @Full Load	1.3A (Max)
230Vac @Full Load	0.8A (Max)

3.5 EFFICIENCY

3.5.1. Active mode efficiency:

More than 88% (DOE LevelⅥ) of average effiency of 25%,50%,75% and 100% load tested at 115Vac and 230Vac. (Warm up after 30 minutes)

3.6 POWER LINE HARMONIC REQUIREMENT

The input current harmonic requirement shall be met with EN-61000-3-2 at nominail line and full load.

4.0. ENVIRONMENTAL REQUIREMENTS

The power supply will be compliant with each item in this specification for the following environmental conditions.

4.1 TEMPERATURE RANGE

Operating	0 to + 40 deg. C
Storage	-30 to +60deg.C

4.2 HUMIDITY

Operating	8 – 80% RH, Non-condensing
Storage	8 – 80% RH, Non-condensing

4.3 VIBRATION

10 to 100Hz sweep at a constant acceleration of -0.5G for 10 min. for each of the perpendicular axes X, Y, Z.

4.4 SHOCK

Half-sine: 2ms

Storage All 6 sides; 50 to 90 in/sec in 10 in/sec increments.

Operating All sides except top; 40 to 70 in/sec in 10 in/sec increments.

No mechanical variations permitted. Electrically, the unit is capable of continuous normal operation after test completion.

4.5 PACKAGE DROP

Turn off system.
Follow MIL-STD-810D, 0 - 9.1kg 1m, 9.2 - 18.2kg 90cm.
10 drops: 1 corner, 3 adjacent edges of corner, 6 faces.
At random, repeat the above process 1 more time.
Note: Check for mechanical damage and functional failures.

4.6 Altitude

From sea level to 5,000m (operation) and 5,000m above (non operation)

5.0. RELIABILITY

5.1. MTBF

The subject adapter have a minimum predicted MTBF of 100000 hours of continuous operation at 25℃, maximum-output load, and nominal AC input voltage.

5.2 DIELECTRIC WITHSTAND VOLTAGE AND INSULATION RESISTANCE

L&N To FG : 2545 VDC 10mA for 2 second.
Insulation Resistance: 500Vdc / 1 Sec, 100 MΩ min. between primary and secondary.

5.3 LEAKAGE CURRENT

The measured reaing is less than 0.25 mA at 254Vac 50Hz.

5.4 EMC

The power supply have to meet EMC regulations as below.

Referring standards	Test specification	IEC standards
ESD	Contact 4KV	IEC61000-4-2
ESD	Air 8KV	IEC61000-4-2
RS	3V/M	IEC61000-4-3
CS	3V/M	IEC61000-4-6
EFT	1KV on AC power line	IEC61000-4-4
SURGE	Differential mode:1KV(2ohm) Common mode:2KV(12ohm)	IEC61000-4-5
DIPS	0% 250Cycle , 40% 5Cycle 70% 0.5Cycle	IEC61000-4-11
CE	Class B	EN55022,EN55024
RE	Class B	EN55022,EN55024

5.5 Acoustic Noise

Acoustic Noise	Test condition: Vin: 100Vac/240Vac Load:0A/0.02A/1.75A/3.5A/5.25A/7A Test distance:30cm 20db