電氣規格書

ESD-00000262

FSP045-RBCN3

Released Date:2019/03/25-09:25:14

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

AC Adapter

FSP045-RBCN3

P.E	R/D	APPROVED	REV.
ZuoHJ	ZuoHJ	Tonyhsieh	01

全漢企業股份有限公司 FSP TECHNOLOGY INC.

Electrical Specification

History

REV.	Description	Date	Drawn	Mechanical	Electrical	Approved
00	Original Release	2017/05/31	ZhouHP	HuYF	ZuoHJ	Tonyhsieh
01	Update 1.7 CoC V5 (Tier 2)*	2018/06/25	ZhouHP	HuYF	Luozy	Tonyhsieh

MODEL NO. **FSP045-RBCN3**

全漢企業股份有限公司 FSP TECHNOLOGY INC.

Electrical Specification

Electrical Requirements

1. Input Characteristics:

ITEM	CONDITION	SPECIFICATION
1.1 Rated Input Voltage:		100Vac~240Vac
1.2 Input Voltage Range:		90Vac to 264Vac
1.3 Input Frequency Range:		50Hz to 60Hz (± 3Hz)
1.4 Input Current:	100Vac, 240Vac / 2.37A load	≤ 1.5A
1.5 Power Saving:	115Vac, 230Vac / No load(0.075W)	≤ 0.075W
1.6 Inrush Current:	100Vac, 240Vac / 2.37A load	Shall be less than the rating of adapter critical component (including rectifiers, fuse surge and current limiting device)
1.7 Meet CoC V5 (Tier 2)*:	(1) Warm Up The UUT shall be measured after operated at 100% of rated current output for at least 30 minutes. (2) Tested sequence Efficiency tests shall be conducted in sequence: ① 100% maximum load ② 75% maximum load ③ 50% maximum load ④ 25% maximum load ⑤ 10% maximum load	Average efficiency of 25%, 50%,75% and 100% load shall be more than 88.86% tested at 115V/230Vac. Minimum Efficiency in Active Mode at 10 % load shall be more than 78.90% at 115V/230Vac.

全漢企業股份有限公司 FSP TECHNOLOGY INC.

Electrical Specification

2. Output Characteristics:

※Measured at the end of DC cable.

ITEM	CONDITION	SPECIFICATION
2.1 Output Rated Voltage:		19V
2.2 Output Current:	at constant voltage mode	0A to 2.37A load
2.3 Output Voltage Setting:	at the output end of DC cable	19V ± 5%
2.4 Output Voltage Ripple and Noise: (0.1uF Ceramic Cap. and 35V 47uF Aluminum Cap. Paralleled between the end of output cable, 20MHz BW)	115Vac, 230Vac / 0A~2.37A load	≤ 380mVp-p
2.5 Turn-On Delay Time:	At 100Vac / 2.37A load, output voltage shall remain regulation	≤ 3Sec
2.6 Hold Up Time:	At 115Vac or 230Vac /2.37A load, output voltage shall remain regulation	≥ 5ms
2.7 Rise Time:	At 115Vac /2.37A load, DC output rise time from 5% to 95% of Vo	≤ 100ms
2.8 Dynamic Load Change:	（1） Output load step is： 【1】0 % ~50 % 【2】50 %~100 % （2） S/R=1A/us （3） Frequency is 10Hz and 1KHz	19V ± 10%
2.9 Overshoot:	115Vac, 230Vac / 0A and 2.37A load	19V ± 10%

3. Protection Characteristics:

ITEM	CONDITION	SPECIFICATION
3.1 Short Circuit Protection:	When an internal fault occurs, or an external fault is applied to the power supply, such that an overload or short circuit is applied to the output, the power supply shall shut down and enter auto-recovery mode.	auto-recovery
3.2 Over Voltage Protection:	The adapter will enter into shut down that means no output while over voltage happened at output terminal that caused by internal fault, the output trip voltage shall not exceed 28.5volts. That will be return to normal state by AC reset.	Latch and no damage
3.3 Over Current Protection	The OCP shall limit the output current to 5.0 amperes by monotonically shutting down all voltage rails in the event of an over current condition. Auto recovery is required. The power supply shall be able to survive an OCP condition for an indefinite period of time without damage.	auto-recovery
3.4 Over Temperature Protection:	The power supply will enter into shut down while the abnormal thermal rise occurs. That will be return to normal state by AC reset.	No fire, no smoke

全漢企業股份有限公司 FSP TECHNOLOGY INC.

Electrical Specification

4. Environmental Characteristics:

ITEM	CONDITION	SPECIFICATION
4.1 Electric Fast Transients: Refer to IEC61000-4-4	Impulse: ±1kV applied to L,N	Normal operation shall be continued
4.2 Lightning Surge: Refer to IEC61000-4-5	±1kV applied differential mode	Normal operation shall be continued Normal operation shall be continued
4.3 Electron Static Discharge: (Refer to IEC61000-4-2 Energy Storage Capacitor 150pF; Discharge Resistor 330Ω)	Air Discharge: ± 15 KV Contact Discharge: ± 8 KV	Normal operation shall be continued
4.4 Cooling:	Natural air cooling	
4.5 EMI: Adapter comply with the following national standards: EMI Conducted Emission EMI Radiated Emission	1.Full Load 2. The power supply with internal filter can meet.	FCC PART 15J CLASS B CISPR22 EN55022 CLASS B VCCI LEVEL Π
4.6 Safety conforming: 4.6.1 Energy-related Products【ErP】 Department of Energy【DOE】		Regulated by customer Comply with ErP standard Comply with DOE standard
4.7 Leakage Current:	264Vac / 50Hz	≤ 0.25mA
4.8 Dielectric Strength: (Hi-Pot)	Between AC L N input and secondary applied AC3.0KV / test time 1 minute / cut off current shall be less than 10mA	
4.9 Temperature:	Operating Storage	0 to 40°C (safety) 40 to 70°C Linearly de-rate to 50% load at 70°C，need to check safety with system -20 to + 80°C
4.10 Humidity:	Operating Storage	20% ~ 80% 10% ~ 90%

4.11 MTBF	(1) Full load (2) 230 Vac (3) 25 °C	100,000Hrs Min.
4.12 System Capacitive Load	The system load capacitance is 2200uF. And shall be capable of start up with a 2200uF load	
4.13 Altitude	The Power Supply operates up to an altitude of 5000m above sea level.	

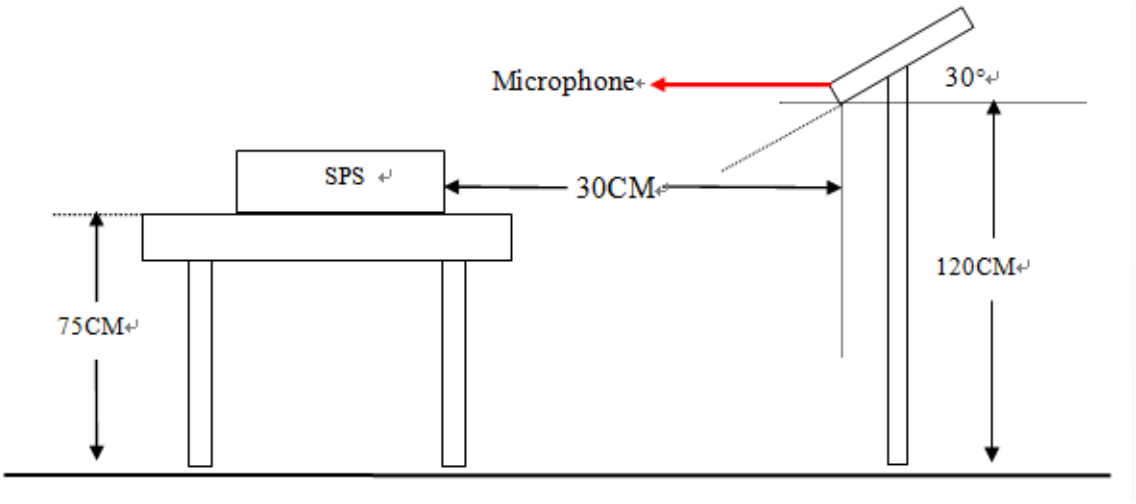
全漢企業股份有限公司 FSP TECHNOLOGY INC.

Electrical Specification

5. Mechanical Characteristics:

ITEM	CONDITION	SPECIFICATION
5.1 Dimension (Length x Width x Height):		108.3 * 46.3 * 30.0 mm
5.2 Input AC socket Type:		IEC 320-C8Type
5.3 Vibration Test:	（1）Non-operating, 0.01g^2/Hz at 5Hz slopping to 0.02g^2/Hz at 20Hz, And maintain 0.02g^2/Hz from 20Hz ~ 500Hz （2）PSD=3.13grms, 15 minutes/axis （3）Vibration duration:15minutes （4）Vibration waveform:Random （5）Force Direction X,Y,Z	Normal operation shall be continued.
5.4 Acoustic Noise:	（1）Position the microphone 30 centimeters above the x-y center of the AC adapter （2）Input voltage: 115Vac/60Hz 230Vac/50Hz	The EUT < 30dB

Note : Acoustic Noise



MODEL NO. **FSP045-RBCN3**

SHEET 7 OF 7