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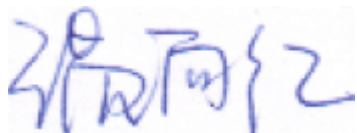
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SPECIFICATION FOR APPROVAL

CUSTOMER : Daviscomms (S) Pte Ltd
CUSTOMER P/N : _____
PRODUCT MODEL : S13-005-0050-01000
KO P/N : SWP-30775-01
REVISION : 03
DATE : 2020.04.01

Keen Ocean Development

Drawn by :



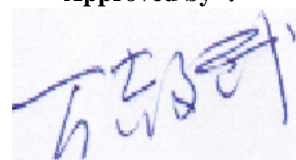
2020.04.01

Checked by :



2020.04.01

Approved by :



2020.04.01

Please kindly sign back for approval

Accepted by Customer :

Accepted by Customer :

Signed and chopped

Date

Revision Note/更新記錄

Rev/版本	Data/時間	Changed Cause/更改理由	Changed Comment/更改內容
00	2020.01.17	First Issue/文件首次發放	
01	2020.01.20	Add the BOM (PCBA) and Circuit Diagram/添加BOM (PCBA) 和原理圖	13~14
02	2020.02.28	Change the Mech.Outline Drawing (SR2) /更改外觀示意圖 (SR2)	9
	2020.02.28	Change the SR Drawing/更改SR示意圖	10
03	2020.04.01	Change the Operating Temperature from 40°C to 45°C/將操作溫度由40°C 更改為45°C	5.1
	2020.04.01	Add the Overvoltage protection/添加過壓保護	4.3

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1.SCOPE

The document detail the electrical,mechanical and environmental specifications of a SMPS,the power supply provide 5V 1000mA continuous output power.

資料詳細描述了一款5V 1000mA (連續輸出功率)開關電源的電氣性,結構性及環境等要求.

The power supply shall meet the ROHS requirement.

此款電源符合ROHS要求.

DESCRIPTION

- SMPS Adaptor(Wall mount)/插牆式適配器 SMPS Adaptor(Desk-top)/桌面型適配器
 Open Frame/開放式結構 SMPS Unit (With Case)/帶鐵殼型
 Others/其他

2.Input Characteristics/輸入特性**2.1. Input Voltage & Frequency/輸入電壓與頻率**

The range of input voltage is from 90Vac to 264Vac single phase.

輸入電壓範圍: 從90Vac 到 264 Vac,單相輸入.

	Minimum/最小	Nominal/額定值	Maximum/最大
Input Voltage/輸入頻率	90Vac	100Vac~240Vac	264Vac
Input Frequency/輸入頻率	47Hz	60Hz/50Hz	63Hz

2.2. Input AC Current/AC 輸入電流

0.18Amax. @ 100-240Vac input & Full load/滿載

2.3. Inrush Current (cold start)/浪涌電流(冷啟動)

15Amax. @ 264Vac input

2.4. Average Efficiency (Normal)/平均效率(額定輸入)

73.62% min.@ 115VAC & 230VAC 25% full load,50% full load , 75%full load,100% full load

2.5. Energy Consumption /空載功耗

空載功耗 \leq 0.1W.@ 115VAC & 230VAC

3. Output Characteristics/輸出特性

3.1. Static Output Characteristics<Vo & R+N>/靜態輸出特性

Output Rate	Rated Load/額定電流		Output Range 輸出電壓範圍	R+N 紋波與噪聲	Remark 備註
	Min. Load	Max. Load			
+5V	0.0A	1.0A	4.75V~5.25V	100mVp-p	

Ripple & Noise: Measurement is done by 20MHz bandwidth oscilloscope and the output Paralleled a 0.1 μ F ceramic capacitor and a 22 μ F electrolysis capacitor.(test under the Condition of rated input and rated output)

波紋與噪聲：量測時示波器選用20MHz帶寬限制，輸出端要并聯一顆0.1 μ F的陶瓷電容和一顆22 μ F的電解電容。（在額定輸入及輸出的條件下檢測）

3.2. Line/Load Regulation/線性/負載調整率

Output Rate	Load Condition/負載條件		Line Regulation 線性調整率	Load Regulation 負載調整率	Remark 備註
	Min. Load	Max. Load			
+5V	0.0A	1.0A	$\pm 2\%$	$\pm 5\%$	

3.3. Turn –on Delay Time/開機延遲時間

8S max. @ 100 Vac to 240 Vac input & Full load/滿載

3.4. Hold-up Time/關機維持時間

8mS min. @ Full load & 115Vac/60Hz input turn off at worst case/在最差情況關機

3.5. Rise Time/上升時間

20mS max. @ Full load/滿載

3.6. Fall Time/下降時間

20mS max. @ Full load/滿載

3.7. Output Overshoot/Undershoot/輸出過沖/欠沖

10% max. When the power on or off/當電源開/關機時

3.8. Output Load Transient Response/輸出負載瞬態響應

Output voltage within 4.75V~5.25V for load.step from 20% to 80%, R/S: 0.5A/ μ S,

Frequency: 100Hz duration and 8Ms at 80%

輸出電壓在4.75V~5.25V之間，負載變化：從20%到80%，斜率：0.5A/ μ S，頻率：100Hz, 80%

4. Protection Requirements/保護要求**4.1 Over Current Protection/過流保護**

The output shall be hiccuped when over-current protection activated and shall be self-recovery when the fault condition is removed

當過流達到過流保護時，輸出將進入打嗝模式，當過失情況解除後，產品將會自動恢復正常

4.2. Short Circuit Protection/短路保護

The input power shall decrease when the output rail short,the power supply shall no damage, and shall be self-recovery when the the fault condition is removed

當輸出短路時，產品輸入功率降低且不會損傷，當短路情況解除後，產品將會自動恢復正常

4.3. Overvoltage protection/過壓保護

Output shut down with automatic recovery

輸出過壓時將關閉輸出，解除后自動恢復

5.Environmental Requirements/環境要求**5.1. Operating Temperature,and Relative Humidity/操作溫/濕度要求**

0°C to +45°C

20%RH to 90%RH

5.2. Storage Temperature,and Relative Humidity/存儲溫/濕度要求

-10°C to +80°C

0%RH to 95%RH non-condensing @ Sea level shall be low 10,000 feet/低于10,000英尺

5.3. Vibration/振動

10 to 300Hz sweep at a constant acceleration of 1.0G(Breath:3.5mm) for 1Hour for each of the perpendicular axes X,Y,Z

掃描頻率：10 to 300Hz, 加速度：1.0G (位移：3.5mm) ,X,Y,Z三垂直坐標軸向各振動1小時

5.4. Drop in/跌落

Height:1m;the product should be fell off on the hardwood with the thickness of 20mm, and the hardwood should be put on the base of the cement or on the ground without flexibility. Apply one times on all surface.

跌落高度：1米,並跌落到厚度為20mm的硬木應放在水泥基座或等同的無彈性地面上，每面各1次

6.Reliability Requirements/可靠性要求**6.1. Burn-in/煲機**

The power supply shall be burn-in at least 2 Hours under normal input and 100% rated load at ambient temperature
產品至少要在室溫的環境及100%額定負載條件下至少煲機2小時

6.2. MTBF Qualification/平均間隔故障時間估算

The MTBF shall be at least 20,000hours at 25°C,Full load and nominal input condition

平均間隔故障時間：至少20,000小時，25°C環境及額定輸入與滿載條件下

7.EMI/EMS Standards/EMI/EMS 標準

7.1. EMI Standards/EMI標準

EN 55032:2015
EN 55024:2010+A1:2005
CISPR 22:2003,Class B
AS/NZS CISPR 22:2004,Class B
FCC Part 15

7.2. EMS Standards/EMS 標準

EN 61000-3-2	Harmonic current emissions
EN 61000-3-3	Voltage fluctuations & flicker
EN 61000-4-2	Electrostatic Discharge(ESD):8Kv air discharge,4kV contact discharge
EN 61000-4-3	Radio-Frequency Electromagnetic Field Susceptibility Test-RS
EN 61000-4-4	Electrical Fast Transient/Burst-EFT
EN 61000-4-5	Surge Immunity Test:AC Power Line:line to line 1kV,
EN 61000-4-6	Conducted Radio Frequency Disturbances Test-CS
EN 61000-4-8	Power Frequency Magnetic Field Test
EN 61000-4-11	Voltage Dips

8.Safety Standards/安規標準

8.1. Dielectric Strength(Hi-pot)/介電耐壓強度 (高壓)

Primary to Secondary:4250Vdc and 3000Vac/10mA Max/60second(3second for production)

初級對次級:4250Vdc或3000Vac/10mA Max,/60秒(生產時高壓測試時間 : 3秒)

8.2. Leakage Current/漏電流

0.25mAmax.at 264Vac/50Hz

8.3. Insulation Resistance/絕緣阻抗

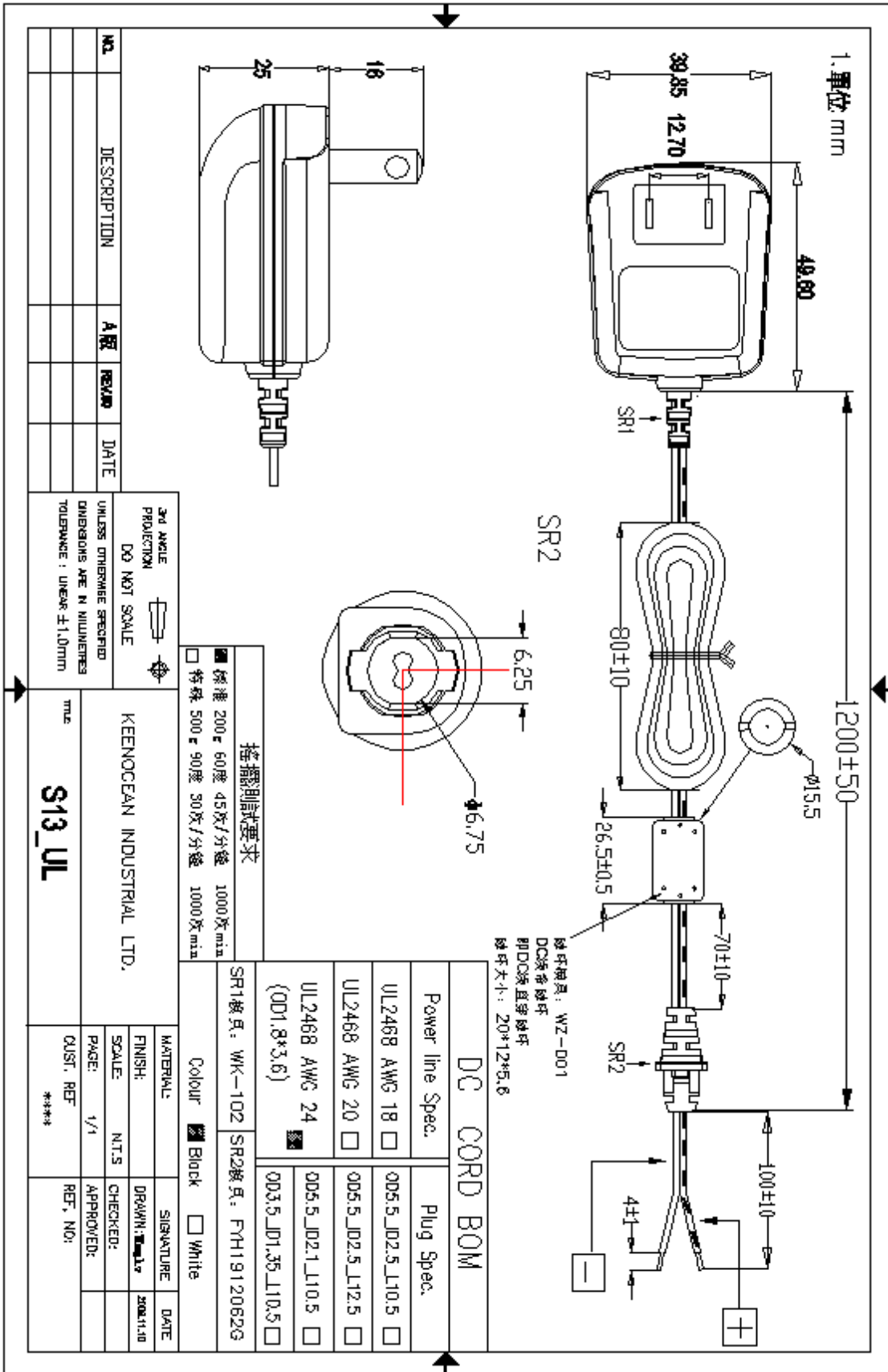
50MΩ min. at primary to secondary add 500Vdc test voltage

在初級與次級間加500Vdc進行測試

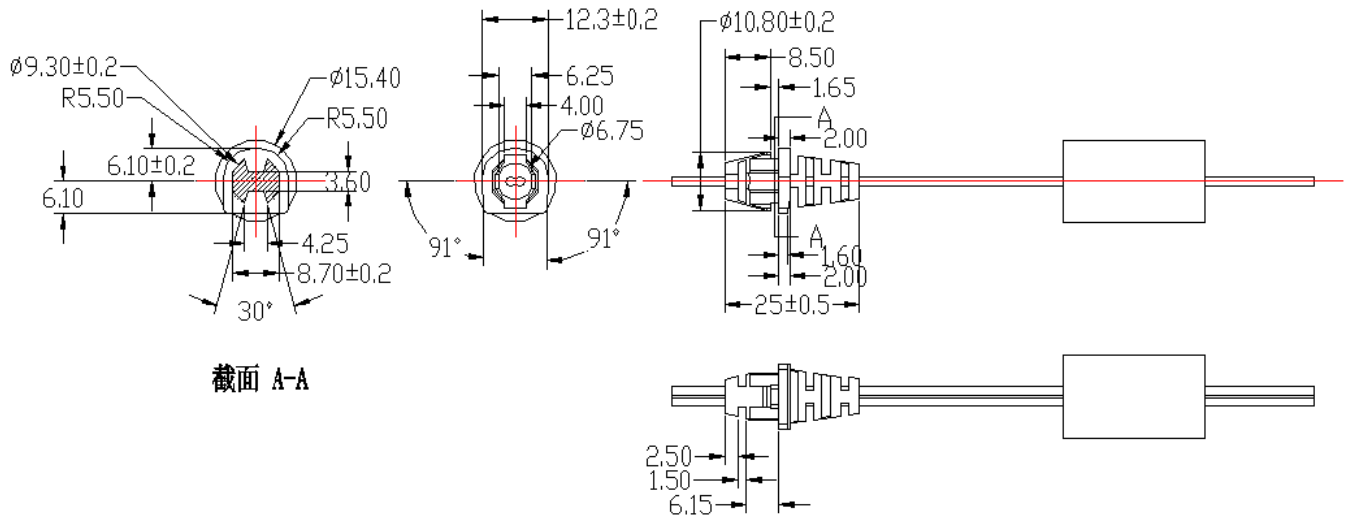
8.4. Regulatory Standards/安規標準

Type/ 安規	Country/國家	Standard/標準
CB	Global	IEC60950-1/ IEC62368-1
UL/CUL	USA/Canada	UL62368-1
GS	Germany	EN60950-1/EN62368-1
DOE	USA	Level VI
EUP	Europe	COC V5 tier 2
MEPS	Australia New Zealand Korea	Level VI


9.Mech.Outline Drawing/外觀示意圖

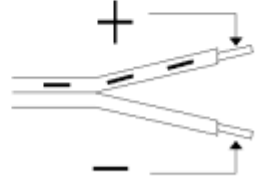




10.SR Drawing/SR示意图



11.Label Drawing/標貼圖

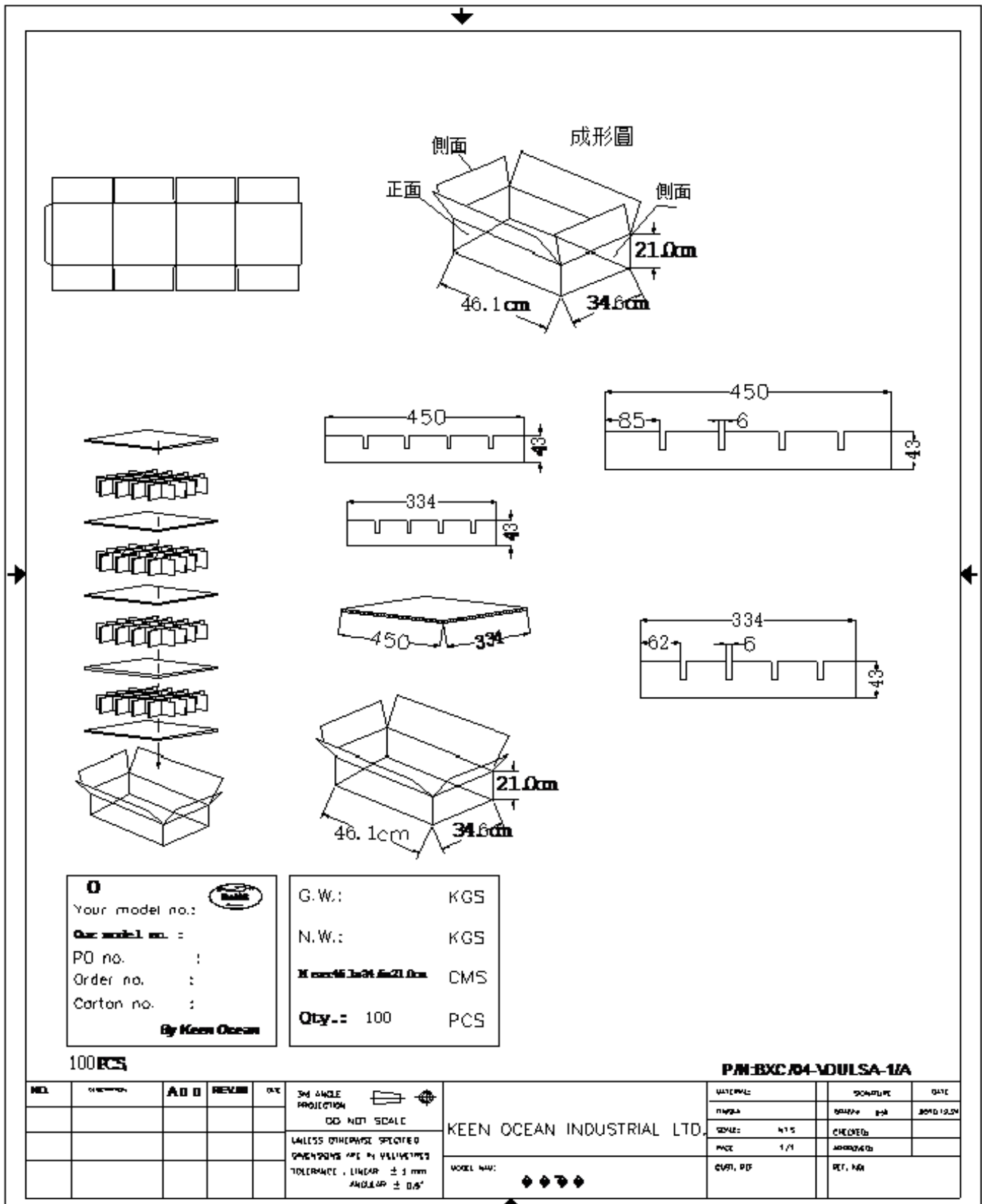
Keen Ocean Industrial Ltd
SWITCHING ADAPTOR
S13-005-0050-01000
SWP-30775-01
INPUT:100-240Vac 50/60Hz 0.18A max
OUTPUT: 5.0V  1000mA
MADE IN CHINA
CAUTION:FOR INDOOR USE ONLY




Note: Laser marking

Typeface : Arial

12.Packing Drawing/包裝示意圖



O
 Your model no.: 
 Our model no. :
 PO no. :
 Order no. :
 Carton no. :
By Keen Ocean

G.W.: KGS
 N.W.: KGS
 H: 46.1cm, L: 34.6cm, W: 21.0cm
 Qty.: 100 PCS

100 PCS

PM-BXC-04-VOLSA-1/A

NO.	REVISION	ADD	REVISION	DATE	3D ANGLE PROJECTION	DD NOT SCALE	MATERIAL	SIGNATURE	DATE
					UNLESS OTHERWISE SPECIFIED	KEEN OCEAN INDUSTRIAL LTD.	NAME: N/S	CHECKED:	2010.12.24
					TOLERANCE: LINEAR ± 0.1mm	MODEL NAME: ◆◆◆◆	PRICE: 1/1	APPROVED:	
					ANGULAR ± 0.5°		CURT. PDF	REF. N/A	

13.BOM (PCBA)

Item	Type	description	Note	Qty
1	Spring	Spring plug wire diameter 0.6 inner diameter 2.0mm material: brass nickel p	L,N	2
2	Inductor	AL0410-102K 1mH±10% DCR=14.	L1	1
3	Solid electrolytic	PZ- 6.3V 680uF ±20% 105°C	C6	1
4	Electrolytic capa	KM-400V 6.8UF±20% Φ8x14mm -40~+105°C	C1 C2	2
5	Fuse Resistor	RXF21-1W-5R1-J-B	FR1	1
6	PCB	40*33*1.2mm CEM-1 94V0		1
7	IC	OB25133QCP SOP-8	IC1	1
8	Magnetic bead	3.2X11.6mm 1206 6.8uH	B1	1
9	Rectifier bridge	MB10S 1000V 1A	BD1	1
10	Diode	SS54L 40V 5A SMB	D5	1
11	Diode	A7 1000V1A SOD123	D1	1
12	Diode	F7 1000V 1A SOD-123FL	D2	1
13	SMD Capacitor	25V 2.2uF±10% X7R 0805	C4	1
14	SMD Capacitor	1000V 1206 X7R 220PF+/-10%	C3	1
15	SMD Capacitor	50V 0805 X7R 1nf±10%	C8	1
16	SMD resistor	1/4W 3.3MΩ±5% 1206封裝	R5R6	2
17	SMD resistor	1/10W 51±5% 0603封裝	R13	1
18	SMD resistor	1/4W 360K Ω±5% 1206封裝	R4	1
19	SMD resistor	1/4W 3Ω±1% 1206封裝	R8	1
20	SMD resistor	1/4W 2.7Ω±1% 1206封裝	R9	1
21	SMD resistor	1/8W 1.5KΩ±5% 0805封裝	R14	1
22	SMD resistor	1/10W 20KΩ±5% 0603封裝	R10	1
23	SMD resistor	1/8W 5.1Ω±5% 0805封裝	R7	1
24	SMD resistor	1/4W 330Ω ±5% 1206封裝	R2	1
25	SMD resistor	1/4W 2.7KΩ±5% 1206封裝	R1	1
26	SMD resistor	1/10W 9.1KΩ±1% 0603封裝	R11	1
27	SMD resistor	1/10W 470KΩ±1% 0603封裝	R12	1
28	Transformer	EE-13 :TFE-83512-00 LP : 2.0mH	T1	1

