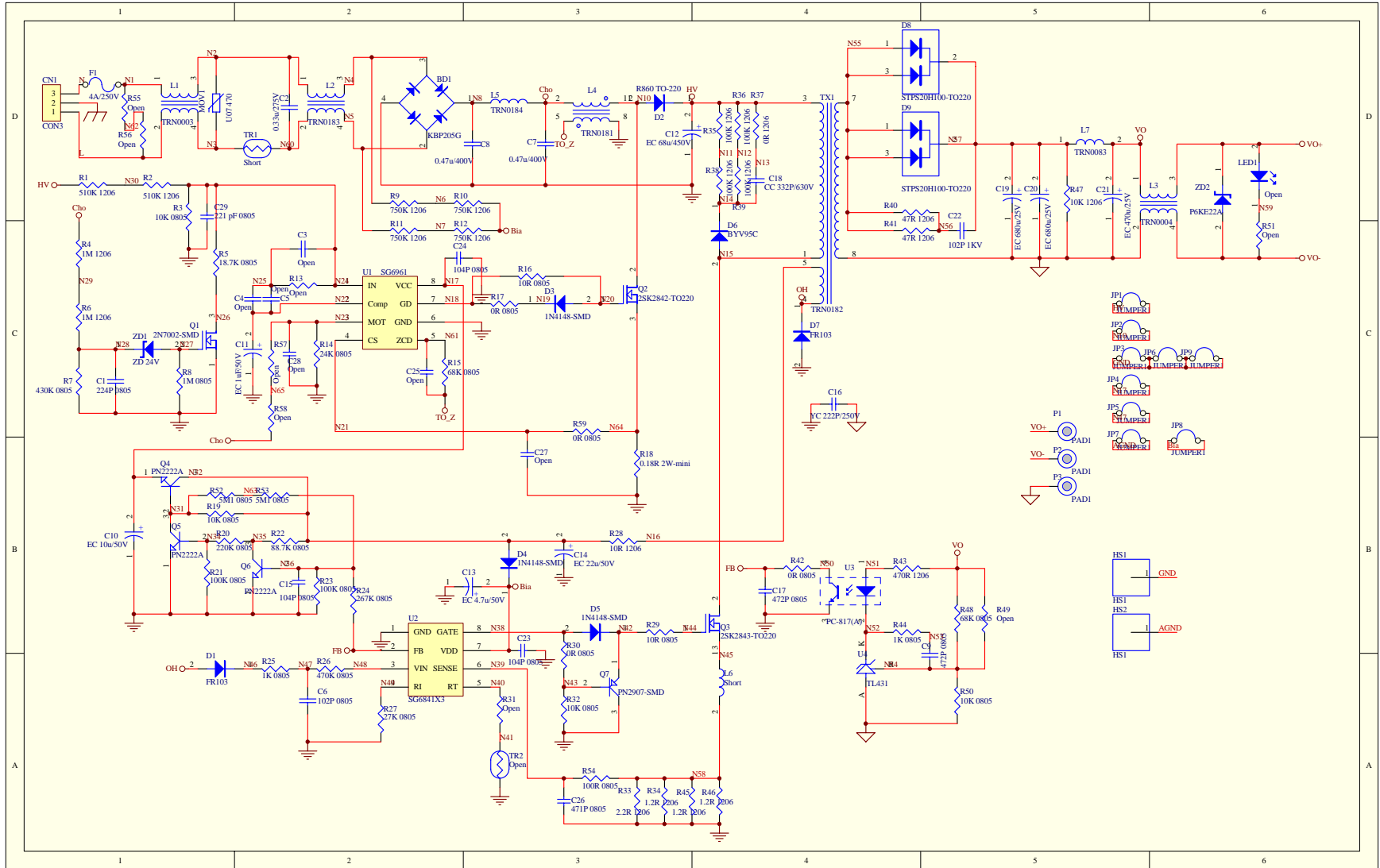


# PS09019-00

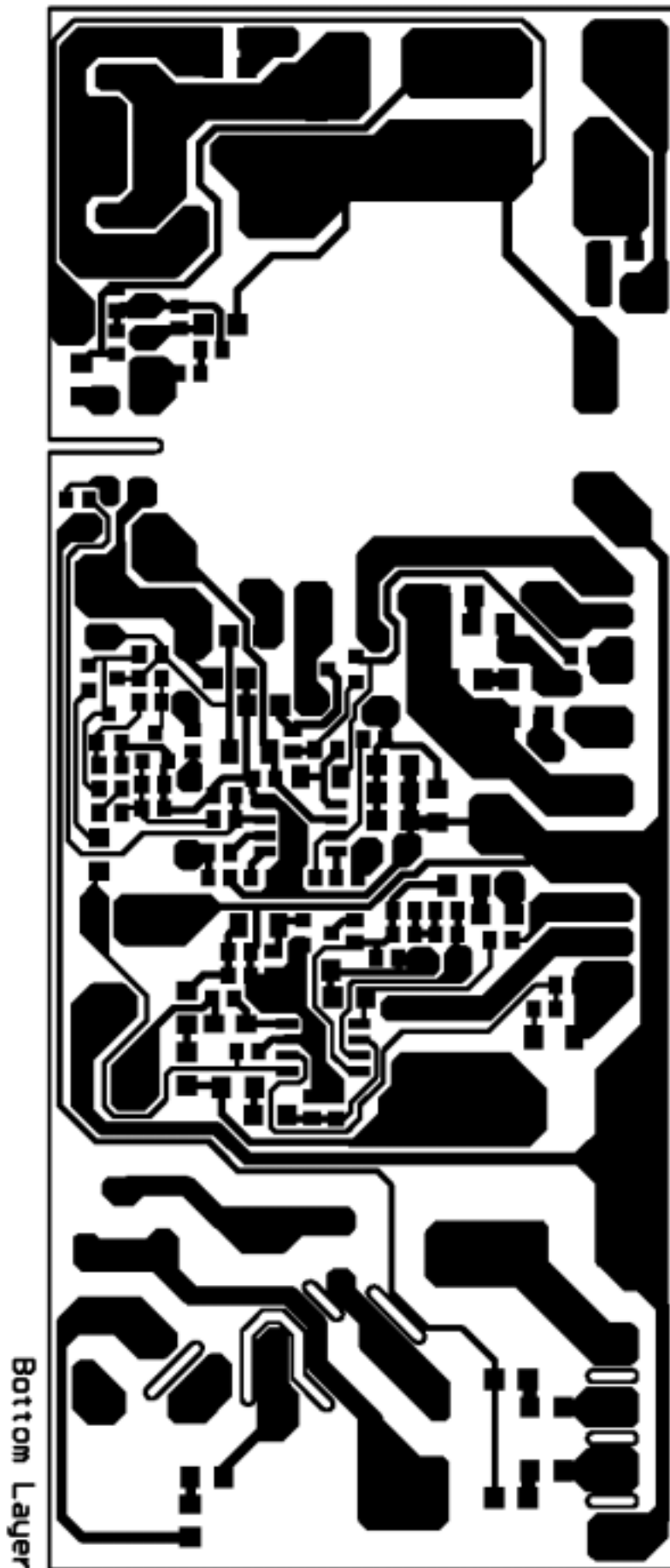
## SG6961SZ+SG6841SZ19V/4.74A

### Contents

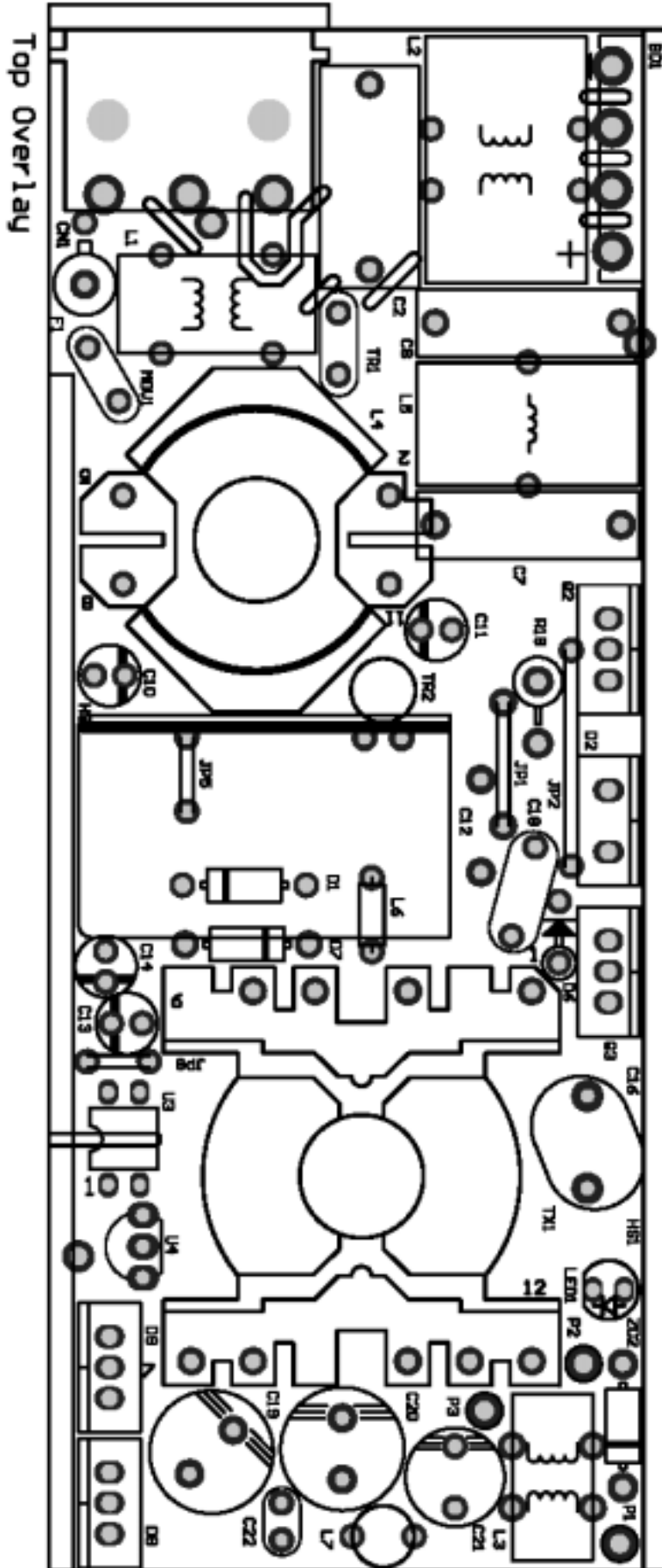
1.Schematic.....	P2
2.Layout Picture .....	P3
3.BOM.....	P6
4.Transformer.....	P8
5.Typical Function Test Report.....	P16
6.EMC Test Report.....	P23



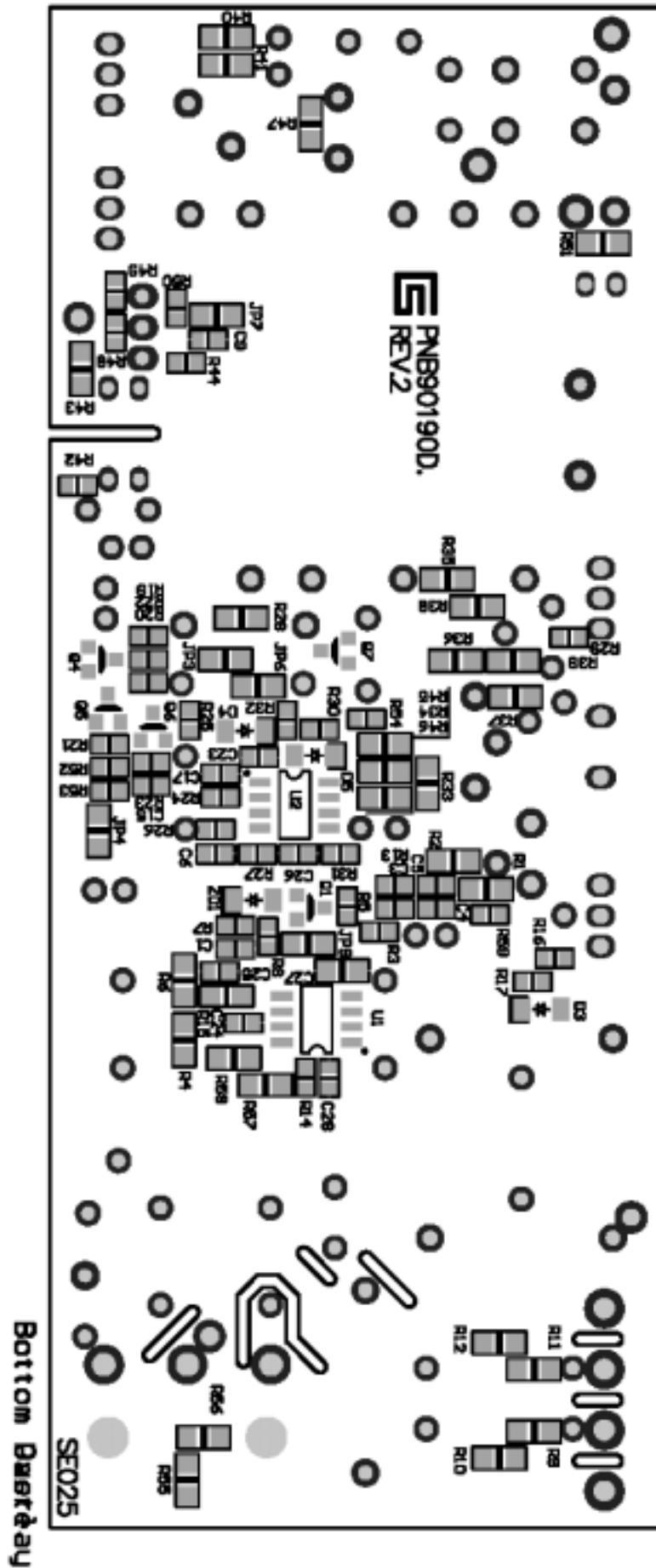
文件名稱	PS09019-00背面佈局圖	制訂部門	SE
文件編號	A0	文件頁數	3/ 27頁



文件名稱	PS09019-00正面零件位置圖	制訂部門	SE
文件編號	A0	文件頁數	4/ 27頁



文件名稱	PS09019-00背面零件位置圖	制訂部門	SE
文件編號	A0	文件頁數	5/ 27頁



# 崇貿科技股份有限公司

## 母件組合表

BOM代號: 76-B070010-00 SG6961SZ+SG6841SZ 90W Demo board

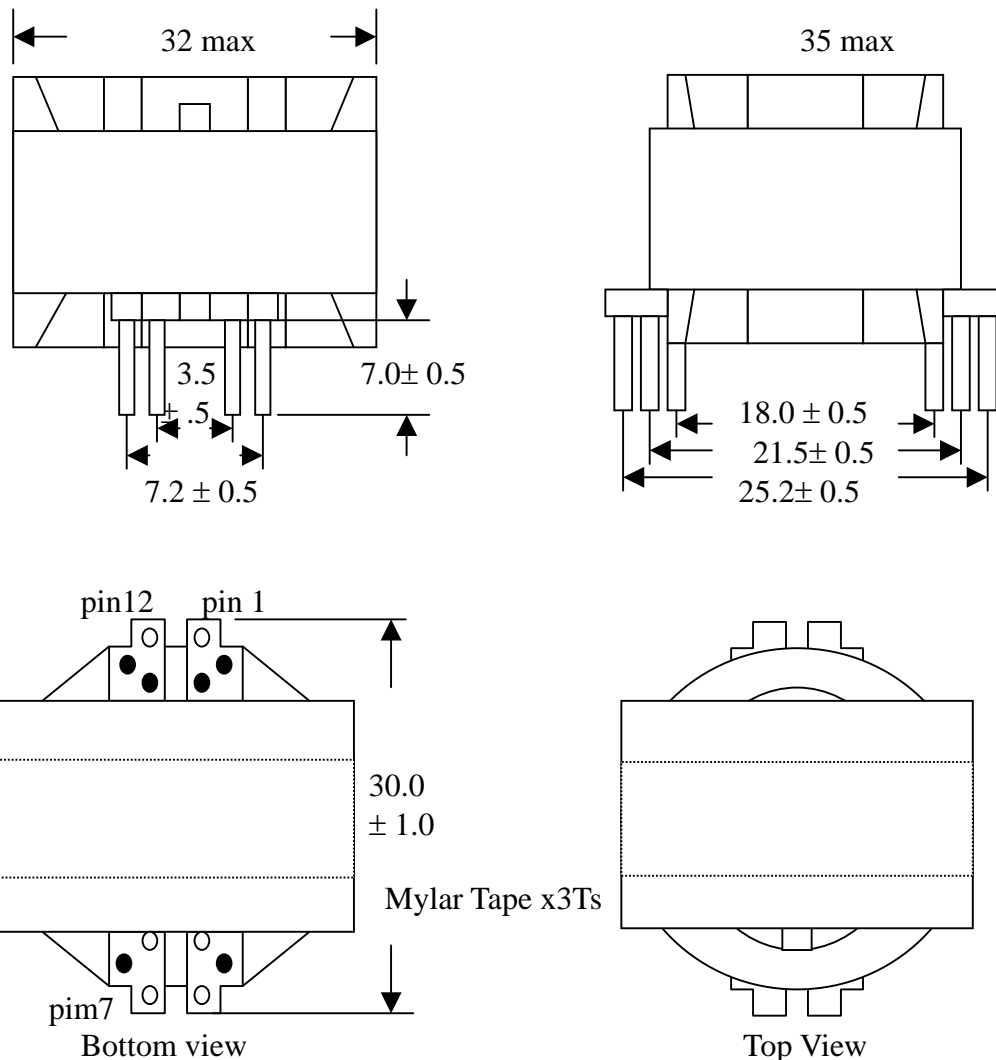
材料代號	材料名稱	材料規格	標準用量	組裝位置
02-0000000-01	Jumper 0.8mm	0.8mm	6	JP1(加套管) JP2,JP5,JP8,TR1,L6
02-3618B01-10	氧化膜電阻 2W-S 0.18Ω +/-1%	2W-S 0.18Ω +/-1%	1	R18
02-5200005-00	SMD電阻 0805 0Ω +/-5% REEL		4	R17,R30,R42,R59
02-5210005-00	SMD電阻 0805 10Ω +/-5% REEL		2	R16,R29
02-5210011-00	SMD電阻 0805 1KΩ +/-1% REEL		2	R25,R44
02-5210021-00	SMD電阻 0805 10KΩ +/-1% REEL		4	R3,R19,R32,R50
02-5210031-00	SMD電阻 0805 100KΩ +/-1% REEL		2	R21,R23
02-5210105-00	SMD電阻 0805 100Ω +/-5% REEL		1	R54
02-5210505-00	SMD電阻 0805 1MΩ +/-5% REEL		1	R8
02-5218721-00	SMD電阻 0805 18K7Ω +/-1%	0805 18K7Ω +/-1%	1	R5
02-5224305-00	SMD電阻 0805 24KΩ +/-5% REEL		1	R14
02-5222405-00	SMD電阻 0805 220KΩ +/-5% REEL		1	R20
02-5226721-00	SMD電阻 0805 267KΩ +/-1% REEL		1	R24
02-5227305-00	SMD電阻 0805 27KΩ +/-5% REEL		1	R27
02-5243401-00	SMD電阻 0805 430KΩ +/-1%	0805 430KΩ +/-1%	1	R7
02-5247031-00	SMD電阻 0805 470KΩ +/-1% REEL		1	R26
02-5251505-00	SMD電阻 0805 5M1Ω +/-5% REEL		2	R52,R53
02-5268021-00	SMD電阻 0805 68KΩ +/-1% REEL		1	R48
02-5288721-00	SMD電阻 0805 88K7Ω +/-1% REEL		1	R22
02-5300005-00	SMD電阻 1206 0Ω +/-5% REEL		6	JP3,JP4,JP6,JP7,JP9,R37
02-5310005-00	SMD電阻 1206 10Ω +/-5% REEL		1	R28
02-5310031-00	SMD電阻 1206 100KΩ +/-1% REEL		4	R35,R36,R38,R39
02-5310041-00	SMD電阻 1206 1MΩ +/-1% REEL		2	R4,R6
02-5310305-00	SMD電阻 1206 10KΩ +/-5% REEL		1	R47
02-5312A05-00	SMD電阻 1206 1Ω2 +/-5% REEL		3	R34,R45,R46
02-5322A05-00	SMD電阻 1206 2Ω2 +/-5% REEL		1	R33
02-5347005-00	SMD電阻 1206 47Ω +/-5% REEL		2	R40,R41
02-5347105-00	SMD電阻 1206 470Ω +/-5% REEL		1	R43
02-5351031-00	SMD電阻 1206 510KΩ +/-1% REEL		2	R1,R2
02-5368305-00	SMD電阻 1206 68KΩ +/-5% REEL		1	R15
02-5375405-00	SMD電阻 1206 750KΩ +/-5% REEL		4	R9,R10,R11,R12
03-001027B-01	陶瓷電容 102 P 1KV +80/-20% 散裝	Z5U	1	C22
03-3310249-00	SMD積層 0805 102 P 100V +/-10 REEL	X7R	1	C6
03-3310439-00	SMD積層 0805 104 P 50V +/-10 REEL	X7R	3	C15,C23,C24
03-3322436-00	SMD積層 0805 224 P 50V +/-10 REEL	X7R	1	C1
03-3347139-00	SMD積層 0805 471 P 50V +/-10 REEL	X7R	1	C26
03-3347239-00	SMD積層 0805 472 P 50V +/-10 REEL	X7R	2	C9,C17
03-3322139-00	SMD積層 0805 221 P 50V +/-10 REEL	X7R	1	C29
03-5010051-01	電解電容 10u 50V 105°C RADIAL 散裝	5*11	1	C10
03-5022051-01	電解電容 22u 50V 105°C RADIAL 散裝	5*11 OST	1	C14
03-5022A51-01	電解電容 2.2u 50V 105°C RADIAL 散裝	5*11 OST	1	C11
03-5047A51-01	電解電容 4u7 50V 105°C RADIAL 散裝	5*11 OST	1	C13
03-5068131-01	電解電容 680u 25V 105°C RADIAL 散裝	10*20	2	C19,C20
03-5247131-01	電解電容 470u 25V 105°C RADIAL 散裝	8 * 20	1	C21
03-52680D1-11	電解電容 68u 450V 105°C 散裝 KMG	KMG 18 * 30	1	C12 (套腳管)
03-8033441-00	MPE電容 0.0033u 630V +/-10% 散裝		1	C18
03-8147251-00	MPE 電容 0.47u 450V +/-10% 散裝	17.3*5*13.3	2	C7,C8

03-B033211-00	X2電容 0.33u 275V +/-20% 散裝	17.7 * 8.1 * 16	1	C2
03-D022201-00	Y2電容 222P 250V +/-20% 散裝	9.4*3.6 腳Pin寬7.5	1	C16
04-1000004-00	TRN0004	PNB50XXX-T3	1	L3
04-1000083-00	TRN0083	PNB60XXX-L4	1	L7
04-1000183-00	電感 TRN0183		1	L2
04-1000184-00	電感 TRN0184		1	L5
04-2000003-00	TRN0003 電感	POF25T(S)-001	1	L1
04-2000181-00	變壓器 TRN0181		1	L4
04-2000182-00	變壓器 TRN0182		1	TX1
07-0010300-00	二極體 FR103 1.0A 200V	FR103 1.0A 200V	2	D1,D7
07-0095C00-00	二極體 BYV95C TAPING		1	D6
07-0414801-00	SMD二極體 1N4148		3	D3,D4,D5
07-0700201-00	SMD二極體 2N7002		1	Q1
07-1201000-00	整流子 STP20-100CT	ST, 非絕緣型, TO-220	2	D8,D9
07-1RS205M-00	橋式整流器 RS205M 2A/600V	20*3.5*11	1	BD1
07-2024001-00	SMD ZENER 二極體 1/2W 24V REEL		1	ZD1
09-0004311-00	REGULATOR TL431 AZ +/-1%		1	U4
09-1022220-11	SMD電晶體 MMBT2222A		3	Q4,Q5,Q6
09-1028420-00	電晶體 2SK2842 TO-220	Toshiba, 絕緣型, TO-220	1	Q2
09-1028430-00	電晶體 2SK2843 TO-220	Toshiba, 絕緣型, TO-220	1	Q3
09-1029070-11	SMD電晶體 MMBT2907A		1	Q7
09-108TB60-00	電晶體 HFA08TB60 TO-220	IR, 非絕緣型, TO-220	1	D2
11-7008170-00	IC PC817A DIP		1	U3
28-0001601-00	FUSE GLASS 250V4A QUICK (弓腳)	3.6*10(5*20)	1	F1
30-0147100-00	突波吸收器 7 $\phi$ 470V 散裝		1	MOV1
30-1122010-00	保護器 P6KE22A		1	ZD2
42-G000301-20	AC inlet 3P插座	R-30790-02	1	CN1
52-0000455-00	Heat Sink(Pri) HS1		1	Q2,Q3,D2 使用
52-0000456-00	Heat Sink(Sec) HS2		1	D8,D9 使用
54-0110165-00	MCH0165	矽膠片 TR-220	3	D2,D8,D9
54-1310198-00	MCH0198	絕緣釘 TR-220	3	D2,D8,D9
54-1120340-00	MCH0340	矽質套管 1C10	3	C12,JP1
58-1030501-00	螺帽 3*5 黑		5	Q2,Q3,D2,D8,D9
58-2230801-00	螺絲 平頭3 $\phi$ 8mm 米厘牙 黑		5	Q2,Q3,D2,D8,D9
70-0090190-01	PCB PNB90190-1 REV.B		1	
SG6961SZ_A_EB	SG6961SZ		1	U1
SG6841SZ_B_EB	SG6841SZ		1	U2

# SPECIFICATION APPROVAL

Customer	SYSTEM GENERAL CORP.			P/N:	TRN
DATE	04/02/2004	版本	A 版	頁數	8 / 27

1.DIMENSION : Unit : mm



Note :

- 1.Pin 1,4,6,7,9,12 NO.
2. 用 0.07x7 裸銅固定 core .
3. Add insulation tape \*1 turns to fix core and bobbin.
- 4.再用 0.05x7mm 外銅箔焊φ0.3 接 pin 8 再包 tape 2ts

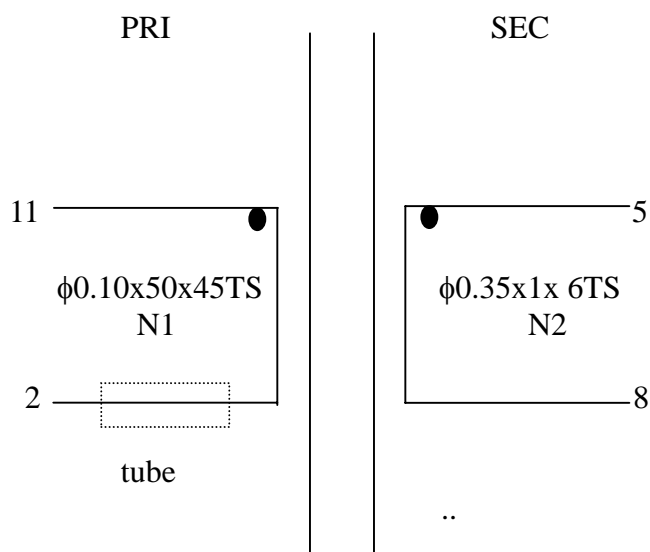
UNIT	m/m	DRAWN	CHECK	TITLE	
TEL	(02)2215-8302	陳啟文	黃國隆	IDENT N O.	TRN-xxxx
FAX	(02)2215-8293	勝輝興業有限公司		DWG N O.	I1008
台台北縣新店安康路 2 段 341 巷 9 號		SEN HUEI INDUSTRIAL CO.,LTD.			



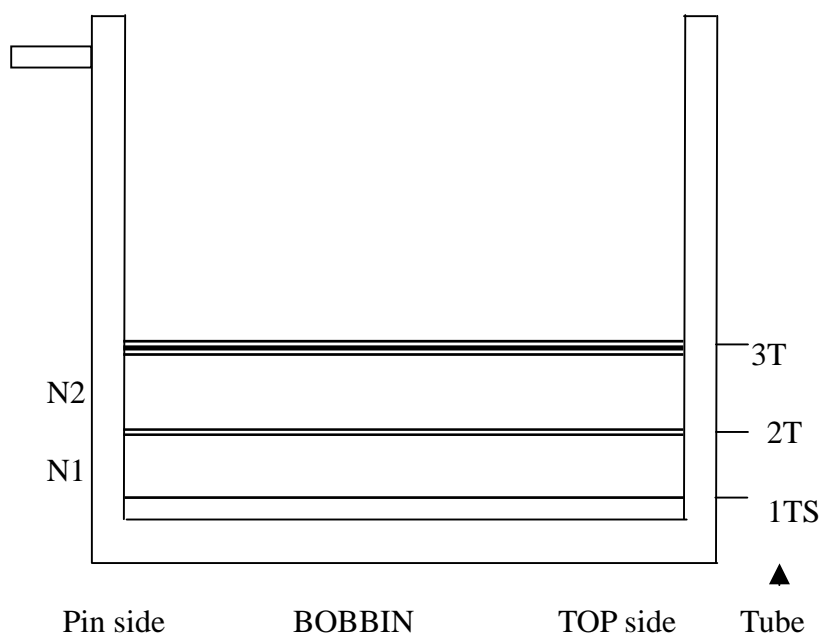
# SPECIFICATION APPROVAL

Customer	SYSTEM GENERAL CORP.			P/N:	
DATE	04/02/2004	版本	A 版	頁數	9 / 27

## 2.SCHEMATIC :



## 2.1SCHEMATIC :



UNIT	m/m	DRAWN	CHECK	TITLE	
TEL	(02)2215-8302	陳啟文	黃國隆	IDENT N O.	TRN-
FAX	(02)2215-8293	勝輝興業有限公司 SEN HUEI INDUSTRIAL CO.,LTD.		D W G N O.	I1008
台北縣新店安康路 2 段 341 巷 9 號					

# SPECIFICATION APPROVAL

Customer	SYSTEM GENERAL CORP.			P/N:	
DATE	04/02/2004	版本	A 版	頁數	10 / 27

### 3.ELECTRICAL SPECIFICATION :

3.1 Inductance test : at 100KHz ,1V

P(11-2) : 460 uH ± 10%

P(5-8) : 5.7 uH ± 15%

3.2 DC Resistance test at 25。 C

P(11-2) : 142 mOhmo max

P(5-8) : 88 mOhmo

3.3 Hi-pot test :

AC 1.0 KV/60Hz/0.5mA hi-pot for one minute between pri to sec.

AC 1.0 KV/60Hz/0.5mA hi-pot for one minute between pri to core.

3.5 Insulation test :

The insulation resistance is between pri to sec and windings to core measured by DC 500V, must Be over 100 MOhm.

3.6 Terminal strength :

1.0 Kg on terminals for 30 seconds, test the breakdown.

UNIT	m/m	DRAWN	CHECK	TITLE	
TEL	(02)2215-8302	陳啟文	黃國隆	IDENT N O.	TRN-
FAX	(02)2215-8293	勝輝興業有限公司		DWG N O.	I1008
台北縣新店安康路 2 段 341 巷 9 號		SEN HUEI INDUSTRIAL CO.,LTD.			

# SPECIFICATION APPROVAL

Customer	SYSTEM GENERAL CORP.			P/N:	
DATE	04/02/2004	版本	A 版	頁數	11 / 27

MATERIALS LIST : (UL : E196468)

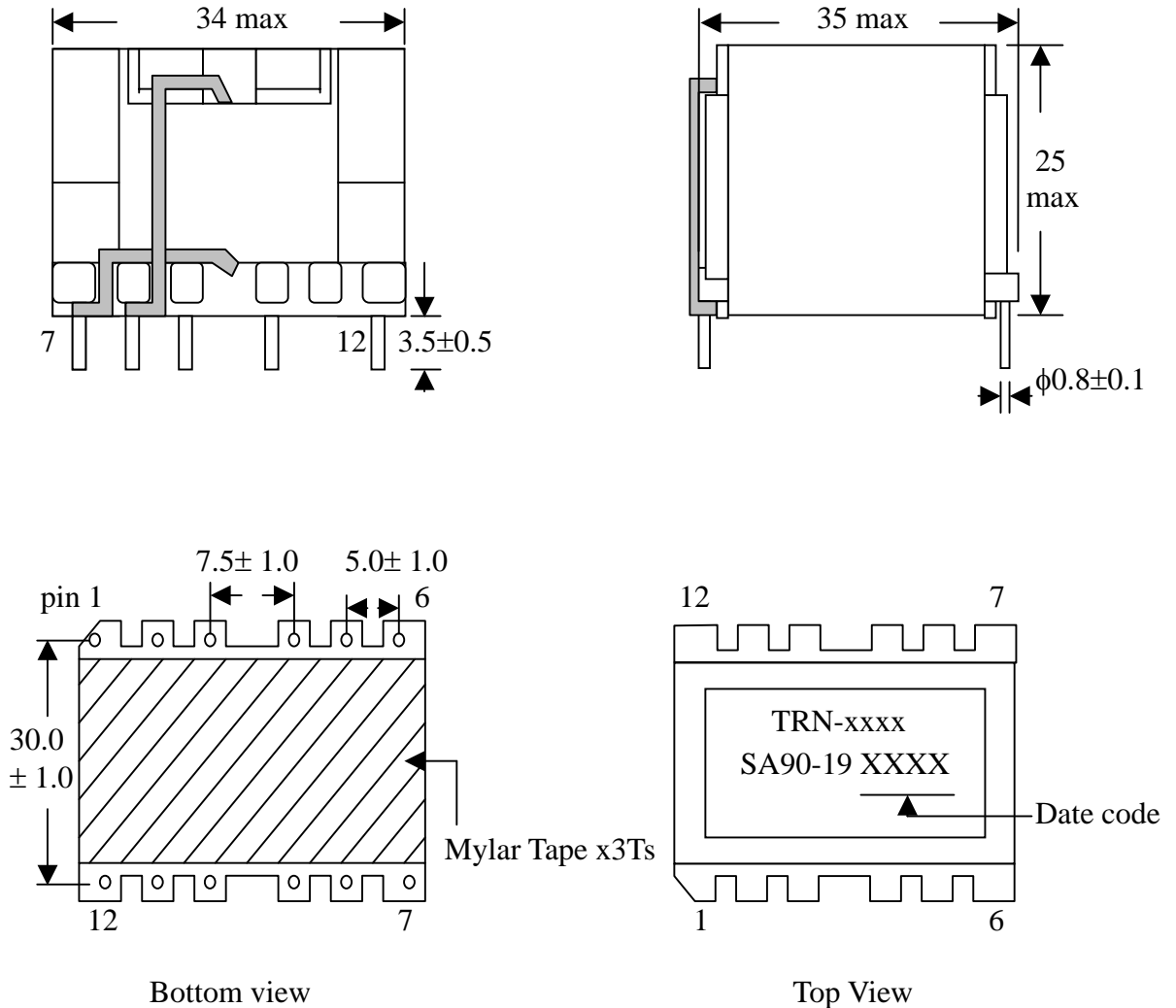
COMPONENT	MATERIAL	MANUFACTURE	FILE NO.
1. Bobbin	Phenolic 94v-0,T373J,150	RM-10 Chang Chun plastics co. ltd.	E59481(S)
2. Core	PC-40,BH2	Ferrite core RM-10 TDK,Tokin.	
3. Wire	UEWE 130	Tai-I electric wire & cable co ltd.	E85640 ( S )
	UEW-2 130	Jung Shing wire co.,ltd	E174837
	UEW-B 130	Chuen Yih wire co.,ltd	E154709 ( S )
4. Varnish	BC-346A 180	John C Dolph co.,itd.	E51047 ( M )
	468-2FC 130	Ripley resin engineering co inc.	E81777 ( N )
5. Tape 0.025tmm	Polyester 3M #1350 130	Minnesota mining & MFG co.,ltd.	E17385 ( N )
	#31CT 130	Nitto denko corp	E34833 ( M )
6. Tube	Teflon tube TFS 600V,200	Great holding industriat co.,ltd.	E156256 ( S )
7. Terminals	Tin coated- Copper wire	Will fore special wire corp	
8. Shield	Copper foil	Hitachi cable ltd. (copper foil : 0.05tx7mm+TAPE)	

UNIT	m/m	DRAWN	CHECK	TITLE	
TEL	(02)2215-8302	陳啟文	黃國隆	IDENT NO.	TRN-
FAX	(02)2215-8293	勝輝興業有限公司 SEN HUEI INDUSTRIAL CO.,LTD.		DWG NO.	I1008
台北縣新店安康路 2 段 341 巷 9 號					

# SPECIFICATION APPROVAL

Customer	SYSTEM GENERAL CORP.			P/N:	TRN
DATE	04/02/2004	版本	A 版	頁數	12 / 27

1.DIMENSION : Unit : mm



Note :

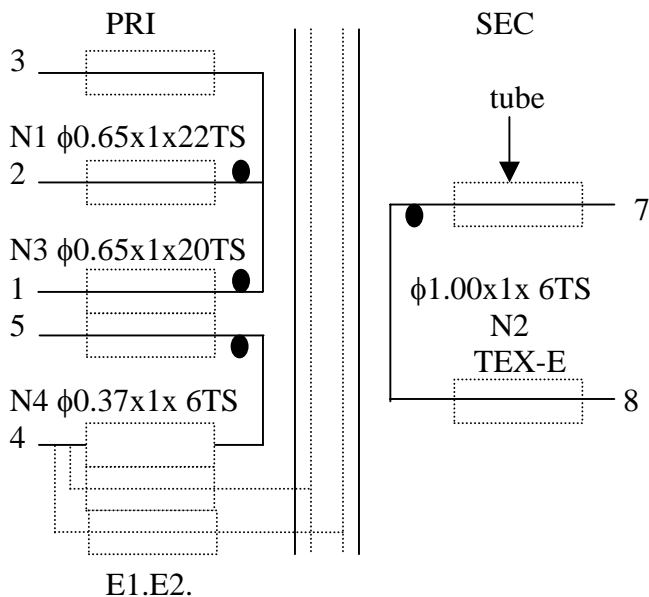
- 1.Pin 2,6,9,10,11,12 NO.
- 2.Pin 2 cut off 2/3.
- 3.Pin3,two lead wires of TEX-E add tube.
- 4.Add insulation tape \*3 turns to fix core and bobbin.

UNIT	m/m	DRAWN	CHECK	TITLE	
TEL	(02)2215-8302	陳啟文	黃國隆	IDENT N O.	TRN-xxxx SA90-19
FAX	(02)2215-8293	勝輝興業有限公司		DWG N O.	I3201
台台北縣新店安康路 2 段 341 巷 9 號		SEN HUEI INDUSTRIAL CO.,LTD.			

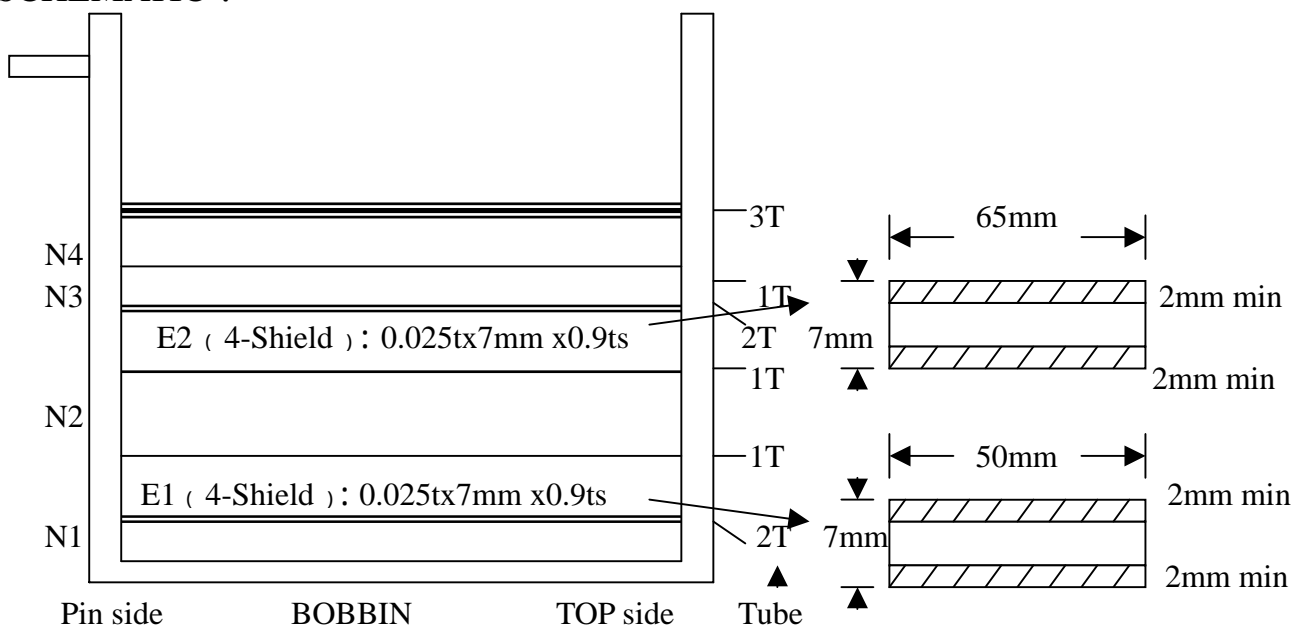
# SPECIFICATION APPROVAL

Customer	SYSTEM GENERAL CORP.			P/N:	
DATE	04/02/2004	版本	A 版	頁數	13 / 27

## 2.SCHEMATIC :



## 2.1SCHEMATIC :



UNIT	m/m	DRAWN	CHECK	TITLE	
TEL	(02)2215-8302	陳啟文	黃國隆	IDENT N O.	TRN-
FAX	(02)2215-8293	勝輝興業有限公司		DWG N O.	I3201
台北縣新店安康路 2 段 341 巷 9 號		SEN HUEI INDUSTRIAL CO.,LTD.			

# SPECIFICATION APPROVAL

Customer	SYSTEM GENERAL CORP.			P/N:	
DATE	04/02/2004	版本	A 版	頁數	14 / 27

### 3.ELECTRICAL SPECIFICATION :

3.1 Inductance test : at 100KHz ,1V

P(1-3) : 700 uH  $\pm$  7%

3.2 Leakage inductance : at 100KHz ,1V

P(1-3) : 20.0 uH max (shorted 7,8)

3.3 DC Resistance test at 25。 C

P(1-3) : mOhmo max

P(7-8) : mOhmo max

P(5-4) : mOhmo max

3.4 Hi-pot test :

AC 3.75 KV/60Hz/0.5mA hi-pot for one minute between pri to sec.

AC 1.5 KV/60Hz/0.5mA hi-pot for one minute between pri to core.

3.5 Insulation test :

The insulation resistance is between pri to sec and windings to core measured by DC 500V, must Be over 100 MOhm.

3.6 Terminal strength :

1.0 Kg on terminals for 30 seconds, test the breakdown.

UNIT	m/m	DRAWN	CHECK	TITLE	
TEL	(02)2215-8302	陳啟文	黃國隆	IDENT N O.	TRN-
FAX	(02)2215-8293	勝輝興業有限公司		DWG N O.	I3201
台北縣新店安康路 2 段 341 巷 9 號		SEN HUEI INDUSTRIAL CO.,LTD.			

# SPECIFICATION APPROVAL

Customer	SYSTEM GENERAL CORP.			P/N:	
DATE	04/02/2004	版本	A 版	頁數	15 / 27

MATERIALS LIST : (UL : E196468)

COMPONENT	MATERIAL	MANUFACTURE	FILE NO.
1. Bobbin	Phenolic 94v-0,T373J,150	PQ3220 Chang Chun plastics co. ltd.	E59481(S)
2. Core	PC-40,BH2	Ferrite core PQ3220 TDK,Tokin.	
3. Wire	UEWE 130	Tai-I electric wire & cable co ltd.	E85640 ( S )
	UEW-2 130	Jung Shing wire co.,ltd	E174837
	UEW-B 130	Chuen Yih wire co.,ltd	E154709 ( S )
	TEX-E 105	Furukawa electric co.,ltd.	1.UL:E157568(S) 2.CSA:LR104155 3.TUV:T9251520 4.BSI:7762
4. Varnish	BC-346A 180	John C Dolph co.,itd.	E51047 ( M )
	468-2FC 130	Ripley resin engineering co inc.	E81777 ( N )
5. Tape 0.025mm	Polyester 3M #1350 130	Minnesota mining & MFG co.,ltd.	E17385 ( N )
	#31CT 130	Nitto denko corp	E34833 ( M )
6. Tube	Teflon tube TFS 600V,200	Great holding industriat co.,ltd.	E156256 ( S )
7. Terminals	Tin coated- Copper wire	Will fore special wire corp	
8. Shield	Copper foil	Hitachi cable ltd. (copper foil : 0.025tx7mm+TAPE)	

UNIT	m/m	DRAWN	CHECK	TITLE	
TEL	(02)2215-8302	陳啟文	黃國隆	IDENT NO.	TRN-
FAX	(02)2215-8293	勝輝興業有限公司 SEN HUEI INDUSTRIAL CO.,LTD.		DWG NO.	I3201
台北縣新店安康路 2 段 341 巷 9 號					

# 功能檢查表

Test Model	PS09019-00	S/N : XXX
Test Date:	2004.5.20	
Test Temperature	Ambient	
Test Equipment	AC Source: EXTECH 6220 Electronic Load: Chroma 63030 Multimeter: Chroma power analyzer 6630 Oscilloscope: Tektronix TDS3032	
	1 <a href="#">Input Current:</a>	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
	2 <a href="#">Short Current:</a>	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
	3 <a href="#">Input Wattage at DC output no-load condition:</a>	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
	4 <a href="#">Line Regulation &amp; Load Regulation:</a>	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
	5 <a href="#">Current Harmonic test:</a>	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
	6 <a href="#">Efficiency:</a>	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
	7 <a href="#">Ripple &amp; Noise:</a>	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
	8 <a href="#">Dynamic load:</a>	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
	9 <a href="#">DC output rise time:</a>	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
	10 <a href="#">Over shoot &amp; Under Shoot Test:</a>	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
	11 <a href="#">Trun on time:</a>	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
	12 <a href="#">Hold up time:</a>	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
	13 <a href="#">Over Power protection:</a>	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
	14 <a href="#">Brown out test:</a>	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
Note	PCB No= PNB90190D REV: 2 Vout= 19V Io(max load)= 4.74A Io(mid load)= 2.37A Io(no load)= 0A Measure on P.C.B  Shown in this document is the typical test result performed on one demo unit. There could be some deviation between different demo units	

核准： 林宋宜

審核： 林乾元

填表： 靳敏賢

表單編號：RDF05.A0



# 功能檢查表

## 1 Input Current:

### 1.1 Test Condition:

Load: Max. Load Input current: 1.5A Max.
---

### 1.2 Test Result:

Input Voltage	Input Current	Test Specifications
115V/60Hz	0.929	< 1.5A
230V/50Hz	0.465	

## 2 Short circuit protection:

### 2.1 Test Condition:

Short-circuit the output the power supply will be protected and AC power input will be less than 5W (auto recovery)
---

### 2.2 Test Result:

Input Voltage	Max. Load	Mid. Load	Min. Load	Test Condition
90V/47Hz	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail	<5W
264V/63Hz	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail	

## 3 Input Wattage at DC output no-load condition:

### 3.1 Test Condition:

Load: Min. Load Less than 1.0Watt at nominal line condition.
---

### 3.2 Test Result:

Input Voltage	Input Power	Stability	Test Specifications
120V/60Hz	0.42	Pass	<1W
240V/50Hz	0.64	Pass	
264V/50Hz	0.66	Pass	

# 功能檢查表

## 4 Line Regulation & Load Regulation:

### 4.1 Test Condition:

Line regulation: 1% Max. Load regulation: 5% Max.
--

### 4.2 Test Result:

<i>Input Voltage</i>	<i>Min. Load</i>	<i>Mid. Load</i>	<i>Max. Load</i>	<i>Test Spec.</i>
90V/60Hz	19.17	19.14	19.12	18.05V~19.95V
115V/60Hz	19.17	19.14	19.12	
132V/60Hz	19.17	19.14	19.12	
180V/50Hz	19.17	19.14	19.12	
230V/50Hz	19.17	19.14	19.12	
264V/50Hz	19.17	19.14	19.12	
<i>Line Regulation</i>	0%			1%
<i>Load Regulation</i>	0.26%			5%

## 5 Current Harmonic test:

### 5.1 Test Condition:

Load: Pi=75W & Max. load
--------------------------

### 5.2 Test Result:

<i>Input Voltage</i>		<i>PF</i>	<i>THD (%)</i>	<i>Test Specifications</i>
90V/60Hz	<i>Pi=75W</i>	0.996	8.08	PF>0.9 THD<20%
	<i>Max. Load</i>	0.996	7.86	
120V/60Hz	<i>Pi=75W</i>	0.993	8.88	
	<i>Max. Load</i>	0.995	7.96	
240V/50Hz	<i>Pi=75W</i>	0.961	13.81	
	<i>Max. Load</i>	0.976	12.25	
264V/50Hz	<i>Pi=75W</i>	0.944	16.64	
	<i>Max. Load</i>	0.966	13.64	

# 功能檢查表

## 6 Efficiency:

### 6.1 Test Condition:

Load: Max. load Efficiency: 83% minimum at nominal line input
--

### 6.2 Test Result:

<i>Input Voltage</i>	<i>Max. Load</i>	<i>Test Spec.</i>
90V/60Hz	85.38	>83%
115V/60Hz	86.94	
132V/60Hz	87.45	
180V/50Hz	87.51	
230V/50Hz	87.79	
264V/50Hz	87.88	

## 7 Ripple & Noise:

### 7.1 Test Condition:

Tested by DC loading side parallel with a 10uF/EC and 0.1uF/CC capacitor and Measured Band-width with DC-20MHz
--

### 7.2 Test Result:

<i>Input Voltage</i>	<i>Min. Load</i>	<i>Mid. Load</i>	<i>Max. Load</i>	<i>Test Spec.</i>
90V/47Hz	20mV	25mV	30mV	100mV
115V/60Hz	20mV	25mV	30mV	
230V/50Hz	20mV	25mV	30mV	
264V/63Hz	20mV	25mV	30mV	

## 8 Dynamic load:

### 8.1 Test Condition:

Dynamic loading (20% ~ 80% of the full load, 50msec duty cycle)
---

### 8.2 Test Result:

<i>Input Voltage</i>	<i>Over Shoot</i>	<i>Under Shoot</i>	<i>Test Spec.</i>
115V/60Hz	234mV	200mV	
230V/50Hz	234mV	200mV	

# 功能檢查表

## 9 DC output rise time:

### 9.1 Test Condition:

Load: Max. load & Min. load DC Output rise time: 20mS max.
---

### 9.2 Test Result:

<i>Input Voltage</i>	<i>Min. Load</i>	<i>Max. Load</i>	<i>Test Spec.</i>
90V/47Hz	4.3mS	14mS	< 20mS
264V/63Hz	3.04mS	7.08mS	

## 10 Over shoot & Under Shoot Test:

### 10.1 Test Condition:

Less than 5% of nominal voltage value Load: Max. load
--

### 10.2 Test Result:

<i>Input Voltage</i>	<i>Over Shoot</i>	<i>Under Shoot</i>	<i>Test Spec.</i>
90V/47Hz; <i>Min. Load</i>	0	0	<5%
90V/47Hz; <i>Max. Load</i>	0	0	
264V/63Hz; <i>Min. Load</i>	0	0	
264V/63Hz; <i>Max. Load</i>	0	0	

## 11 Turn on time:

### 11.1 Test Condition:

Load: Max. load & Min. load AC switch on time: 4Sec max.
---

### 11.2 Test Result:

<i>Input Voltage</i>	<i>Min. Load</i>	<i>Max. Load</i>	<i>Test Spec.</i>
90V/47Hz	2.88S	2.8S	<4Sec
110V/60Hz	1.54S	1.5S	
220V/50Hz	0.58S	0.58S	

# 功能檢查表

## 12 Hold up time:

### 12.1 Test Condition:

Load: Max. load DC Hold up time
------------------------------------

### 12.2 Test Result:

<i>Input Voltage</i>	<i>Max. Load</i>	<i>Test Spec.</i>
90V/47Hz	20.6mS	
110V/60Hz	20.8mS	
220V/50Hz	54.8mS	

## 13 Over Power protection:

### 13.1 Test Condition:

An over current from the output to return line will not damage the power supply. The protection will be enabled if the output current exceeds 6A ~ 7A
---

### 13.2 Test Result:

<i>Input Voltage</i>	<i>Output Current</i>	<i>Test Spec.</i>
90V/60Hz	6.5A	6A ~ 7A
115V/60Hz	6.5A	
230V/50Hz	6.5A	
264V/50Hz	6.5A	

# 功能檢查表

## 14 Brown out test:

### 14.1 Test Condition:

The power supply shall meet its output specification while the line voltage is reduced in 5 voltage decrements from 264Vac to 90Vac, with a minimum dwell at each increment of 15 minutes. The voltage transition time shall be equal to or less than 5 seconds.

The power supply shall recover and continue to meet its output specification after the line voltage is reduced in 5 volt decrements from 264Vac to 0Vac and subsequently increased to 85Vac (minimum dwell at each increment of 15 minutes). The voltage transition time shall be equal to or less than 5 seconds.

### 14.2 Test Result:

<i>Input Voltage</i>	<i>Input Power</i>	
90V/60Hz	106.5W	
85V/60Hz	106.9W	
80V/60Hz	108.1W	
75V/60Hz	109.1W	
70V/60Hz	113.1W	
65V/60Hz	113.2W	
60V/60Hz	0	
55V/60Hz	0	
50V/60Hz	0	
45V/60Hz	0	
40V/60Hz	0	
35V/60Hz	0	
30V/60Hz	0	
25V/60Hz	0	
20V/60Hz	0	
15V/60Hz	0	
10V/60Hz	0	
5V/60Hz	0	

# EMC Test Reprot

## C o n t e n t s

1、Conduction Test.....P24

2、Surge Test.....P26

3、ESD Test.....P27

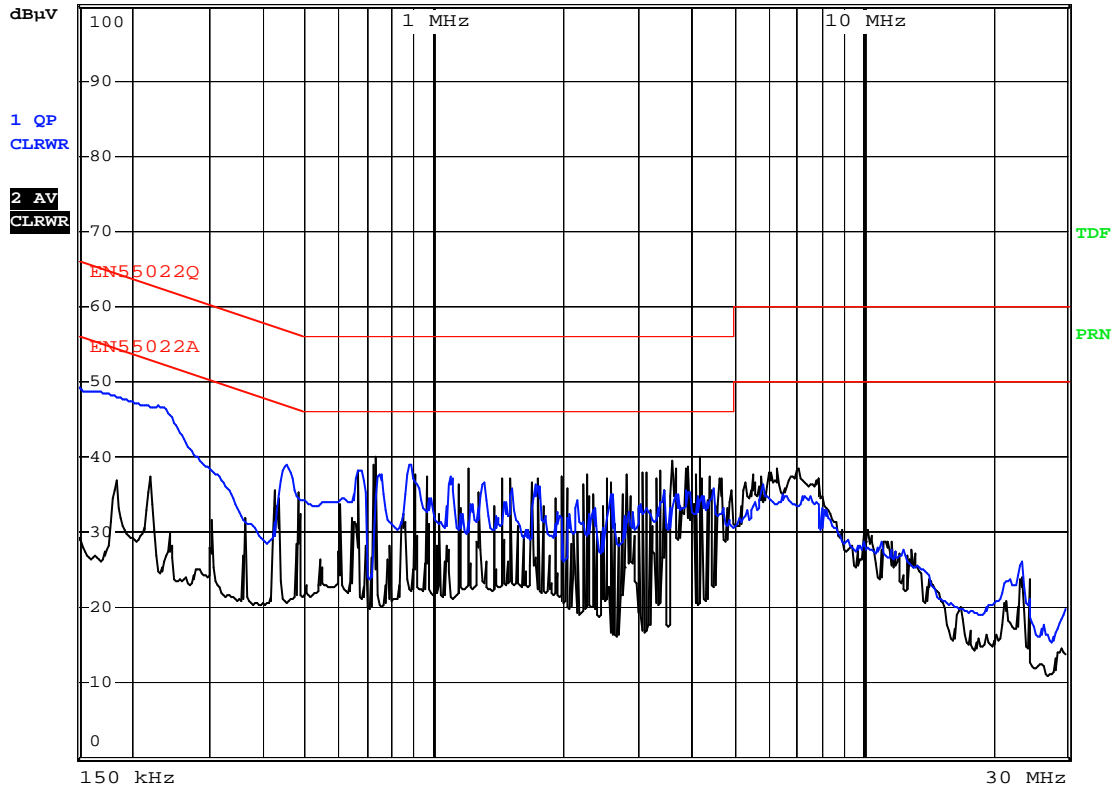
Shown in this document is the typical test result performed on one demo unit. There could be some deviation between different demo units.

# Conduction-Line



RBW 9 kHz  
MT 50 ms  
PREAMP OFF

Att 10 dB



Comment B: 115N

Date: 1.APR.2004 16:07:26

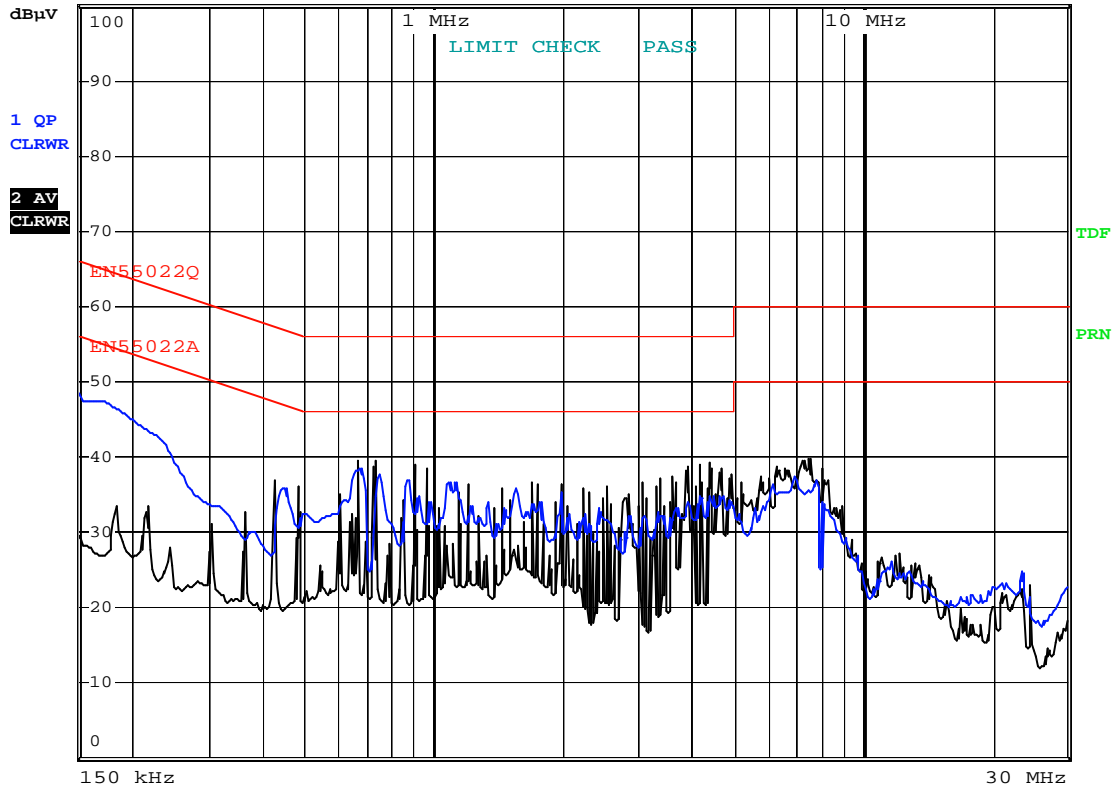


# Conduction-Neutral



RBW 9 kHz  
MT 50 ms  
PREAMP OFF

Att 10 dB



Comment B: 115N

Date: 1.APR.2004 16:00:11

# Surge Test

Mode	Polarity	Phase	Voltage	Judgment
L-N	+/-	0°	1.5KV	PASS
	+/-	90°		PASS
	+/-	180°		PASS
	+/-	270°		PASS
L-PE	+/-	0°	2.5KV	PASS
	+/-	90°		PASS
	+/-	180°		PASS
	+/-	270°		PASS
N-PE	+/-	0°	2.5KV	PASS
	+/-	90°		PASS
	+/-	180°		PASS
	+/-	270°		PASS

# ESD Test

Mode	Air Discharge (15KV)		Contact Discharge (8KV)	
Location	P	N	P	N
1	PASS	PASS	PASS	PASS
2	PASS	PASS	PASS	PASS
3	PASS	PASS	PASS	PASS
4	PASS	PASS	PASS	PASS
5	PASS	PASS	PASS	PASS
6	PASS	PASS	PASS	PASS
7	PASS	PASS	PASS	PASS
8	PASS	PASS	PASS	PASS
9	PASS	PASS	PASS	PASS
10	PASS	PASS	PASS	PASS