

PM30006-02

ATX 300W 230V 80PLUS SMPS

ICs: SG6931, SG6516, SG6858

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A : General Spec

Output	Min. Current (amps)	Max. Current (amps)	Peak Current (amps)
+12 V1DC ⁽¹⁾	1.0	8.0	9
+12 V2DC ^(1, 2)	1.0	13.0	16.5
+5 VDC	0.3	12.0	
+3.3 VDC	0.5	18	
-12 VDC	0.0	0.3	
+5 VSB	0.0	2.5	3.5

Note: Total combined output of 3.3 V and 5 V is ≤ 120 W

Peak currents may last up to 17 seconds with not more than one occurrence per minute

⁽¹⁾12V1DC and 12V2DC should have separate current limit circuits to meet 240VA safety requirements.

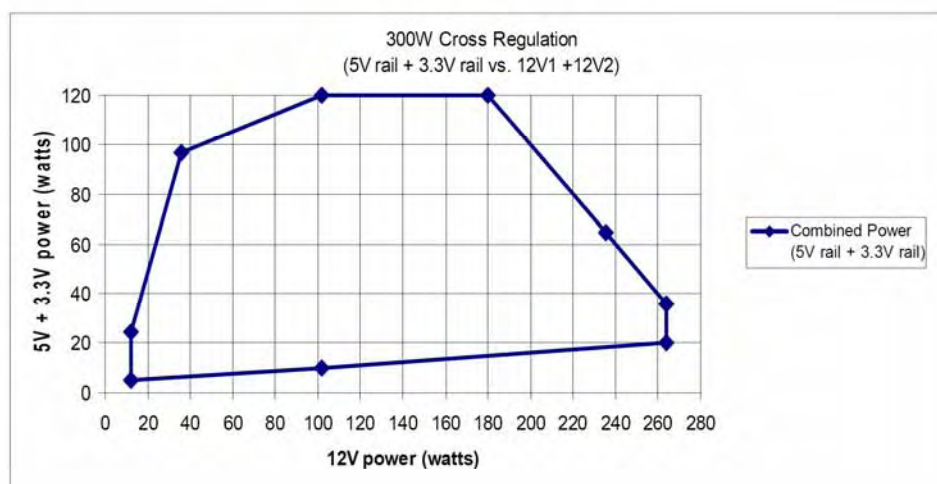
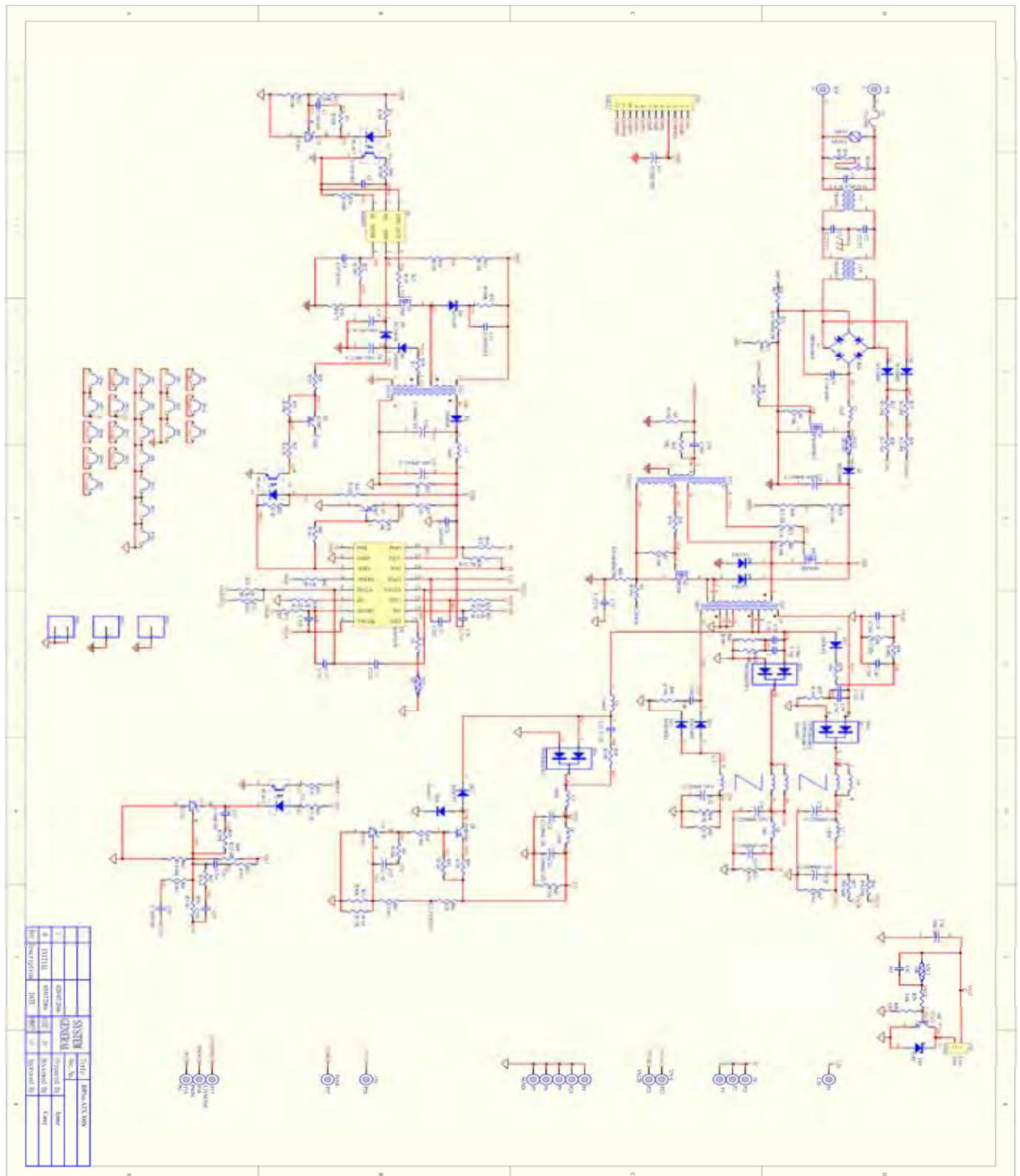
⁽²⁾12V2DC supports processor power requirements and must have a separate current limit and provide 16.5A peak current for 10 ms; minimum voltage during peak is > 11.0 VDC


Figure 2. Cross Loading Graph for 300W Configuration

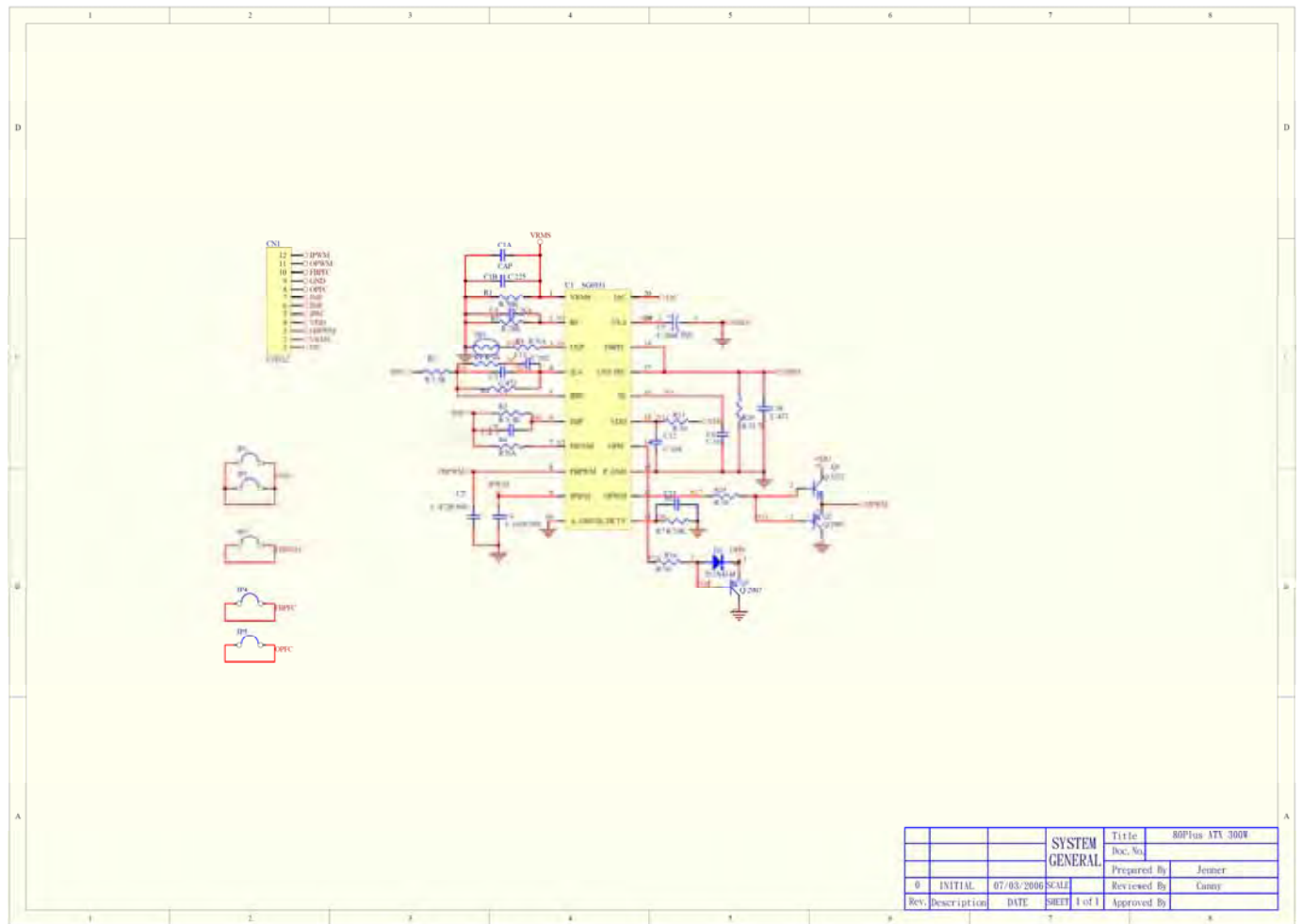
300W (loading shown in Amps)						
Loading	+12V1	+12V2	+5V	+3.3V	-12V	+5Vsb
100 %	6	10.5	9	13.5	0.3	2.0
50 %	3	5.3	4.5	6.8	0.1	1.0
20 %	1.2	2.1	1.8	2.7	0.0	0.4

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B : Schematic



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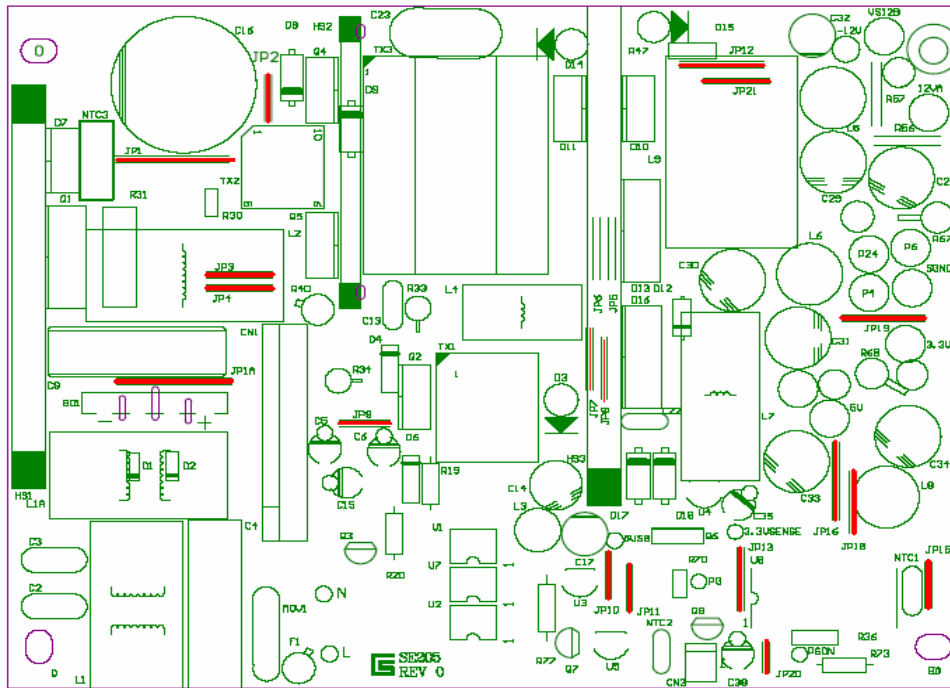


SYSTEM GENERAL		Title: ROPius ATX 300W	
		Doc. No.	
		Prepared By: Jenner	
		Reviewed By: Gany	
		Approved By:	
Rev.	Description	DATE	SHEET 1 of 1

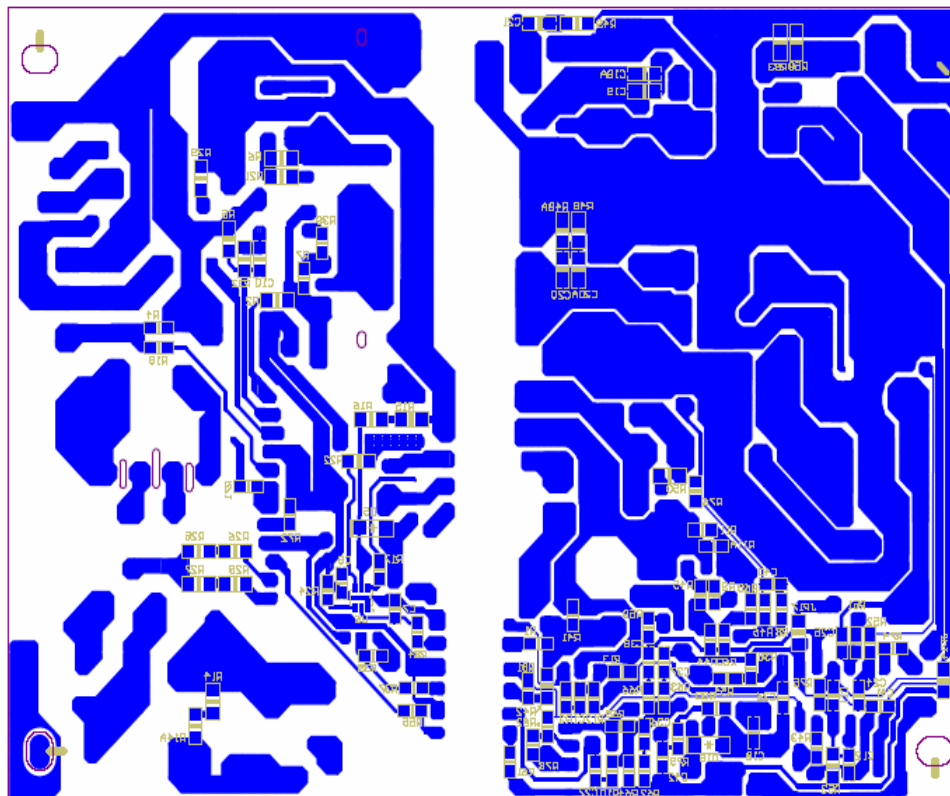
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C : PCB layout

Main Board :



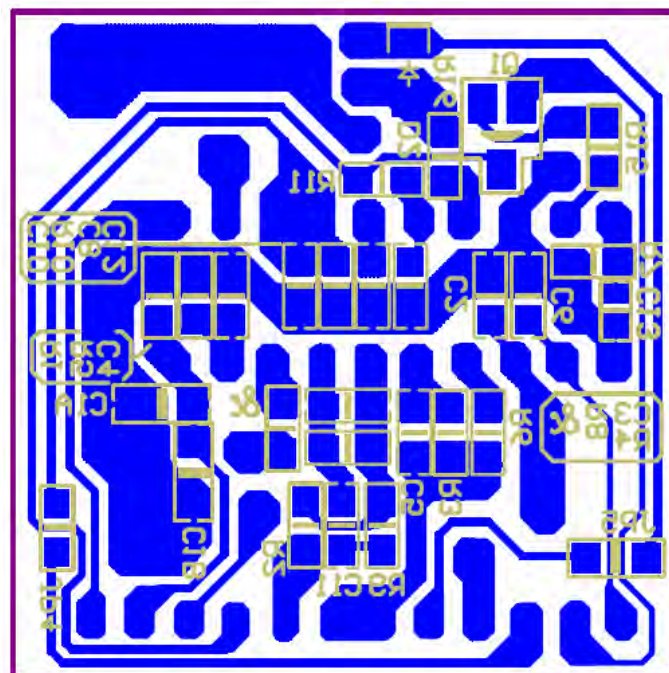
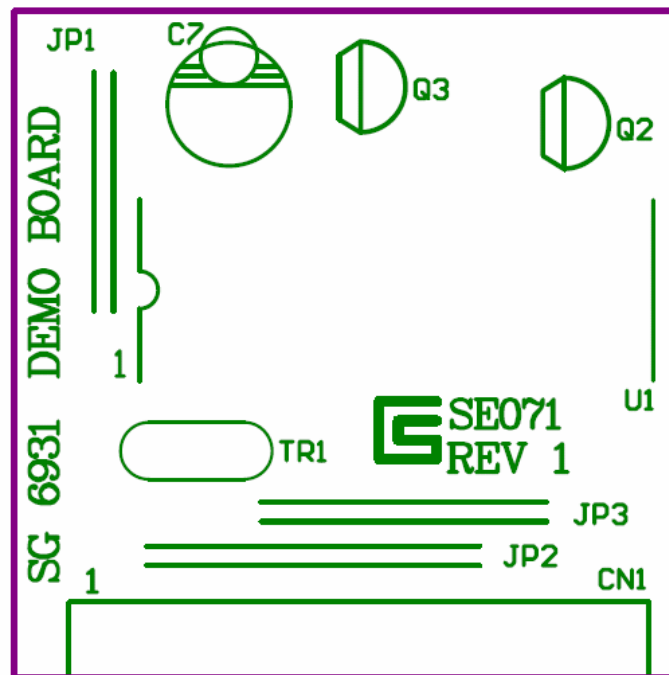
Top Overlay



Bottom Overlay

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6931 Card :



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D : BOM LIST

System General Corp.

BOM LIST: 80Plus ATX 300W Main Board

Item	Description	Type	Quantity	Location
001	DIP resistor 1/8W 11K Ω +/-1%	TAPING	1	R70
002	DIP carbon film fixed resistor 1/4W 0 Ω +/-5%	TAPING	1	R73
003	DIP carbon film fixed resistor 1/4W 1 Ω +/-5%	TAPING	1	R19
004	DIP carbon film fixed resistor 1/4W 10 Ω +/-5%		2	R20,R47
005	DIP metal film fixed resistor 1/4W 32K4 Ω +/-1%	TAPING	1	R36
006	DIP metal film fixed resistor 1/4W 1M5 Ω +/-1%	TAPING	1	R30
007	DIP carbon film fixed resistor 1/2W 220 Ω +/-5%		1	R77
008	DIP carbon film fixed resistor 1/2W 100K Ω +/-5%	Stand Type	1	R33
009	DIP metal film fixed resistor 1W 0 Ω 75 +/-1%	Stand Type	1	R34
010	DIP metal film fixed resistor 2W 0 Ω 18 +/-1%	Stand Type	1	R40
011	DIP metal film fixed resistor 3WS 0 Ω 1 +/-5%	Mini size	1	R31
012	SMD resistor 0805 10 Ω +/-5%		4	R17,R18,R39,R59
013	SMD resistor 0805 20 Ω +/-5%		1	R60
014	SMD resistor 0805 47 Ω +/-5%		2	R54,R55
015	SMD resistor 0805 100 Ω +/-5%		1	R84
016	SMD resistor 0805 120 Ω +/-5%	REEL	1	R52
017	SMD resistor 0805 180 Ω +/-5%	REEL	1	R51
018	SMD resistor 0805 300 Ω +/-5%	REEL	1	R45
019	SMD resistor 0805 330 Ω +/-5%		1	R80
020	SMD resistor 0805 560 Ω +/-5%		1	R1
021	SMD resistor 0805 1K Ω +/-5%		3	R43,R44,R82
022	SMD resistor 0805 1K2 Ω +/-5 %		1	R61
023	SMD resistor 0805 2K Ω +/-5%		1	R81
024	SMD resistor 0805 3K4 Ω +/-1%	REEL	1	R69
025	SMD resistor 0805 3K6 Ω +/-5%	REEL	1	R79
026	SMD resistor 0805 4K7 Ω +/-5%		5	R37,R38,R66,R71,R72
027	SMD resistor 0805 4K64 Ω +/-1%	REEL	1	R65
028	SMD resistor 0805 7K68 Ω +/-1%	REEL	1	R8
029	SMD resistor 0805 10K Ω +/-5%		6	R3,R4,R7,R9,R10,R78
030	SMD resistor 0805 10K Ω +/-1%		1	R11
031	SMD resistor 0805 20K Ω +/-1%		2	R12,R13

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Item	Description	Type	Quantity	Location
032	SMD resistor 0805 30K Ω +/-5%		1	R35
033	SMD resistor 0805 32K4 Ω +/-1%	REEL	1	R64
034	SMD resistor 0805 68K Ω +/-5%		1	R46
035	SMD resistor 0805 100K Ω +/-5%		1	R24
036	SMD resistor 1206 10 Ω +/-5%		1	R21
037	SMD resistor 1206 100 Ω +/-5%		6	R22,R48,R48A,R49,R50,R76
038	SMD resistor 1206 470 Ω +/-5%		2	R53,R2
039	SMD resistor 1206 1K Ω +/-5%		1	R42
040	SMD resistor 1206 2K Ω +/-5%		2	R58,R83
041	SMD resistor 1206 10K Ω +/-5%		1	R6
042	SMD resistor 1206 1M5 Ω +/-5%	REEL	2	R27,R28
043	SMD resistor 1206 1M5 Ω +/-1%	REEL	1	R29
044	SMD resistor 1206 1M Ω +/-5%		4	R14,R14A,R15,R16
045	SMD resistor 1206 2M4 Ω +/-5%	REEL	2	R25,R26
046	SMD resistor 1206 0 Ω +/-5%		2	JP14,JP17
047	Copper-Manganese 8.5m Ω 3W +/-1% M5*10mm	TAPING	2	R56,R57
048	JUMPER WIRE 0.6 ψ (mm)	W5	1	JP20
049	JUMPER WIRE 0.6 ψ (mm)	W7.5	5	JP2,JP9,JP10,JP11,JP15
050	JUMPER WIRE 0.6 ψ (mm)	W10	9	JP3,JP4,JP5,JP6,JP7,JP8,JP13,JP18,JP21
051	JUMPER WIRE 0.6 ψ (mm)	W12.5	3	JP12,JP16,JP19
052	JUMPER WIRE 0.6 ψ (mm)	W17.5	1	JP1A
053	JUMPER WIRE 0.8 ψ (mm)	W17.5	1	JP1
054	Thermistors 5 ψ 10K	TTC051	1	NTC2
055	Thermistors 13 ψ 2 Ω SCK132		1	NTC3
056	Ceramics capacity 101P 1KV +80/-20%	Z5V	1	C22
057	Ceramics capacity 102P1KV +80/-20%		1	C13
058	SMD capacity 0805 471P 50V +/-10%	X7R \pm 10%	1	C8
059	SMD capacity 0805 102P 50V +/-10%	X7R \pm 10%	1	C7
060	SMD capacity 0805 103P 50V +/-10%	X7R \pm 10%	3	C1,C39,C42
061	SMD capacity 0805 104P 50V +/-10%	X7R \pm 10%	3	C18,C26,C27
062	SMD capacity 0805 105P 50V +/-10%	REEL	1	C40
063	SMD capacity 0805 225P 25V +/-10%	REEL	4	C11,C12,C24,C25
064	SMD capacity 1206 101P 100V +/-10%	REEL	3	C20,C20A,C21
065	SMD capacity 1206 222P 100V +/-10%	X7R \pm 10%	1	C19

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Item	Description	Type	Quantity	Location
066	SMD capacity 1206 104P 50V +/-10%	X7R ±10%	1	C10
067	Dip capacity 330uF 6.3V 105	6*11,RADIAL,KMG	1	C17
068	Dip capacity 1000uF 10V 105	8*20,RADIAL,KZE	1	C14
069	Dip capacity 1000uF 10V 105	10*16,RADIAL,KZE	2	C31
070	Dip capacity 1000uF 10V 105	KMG 10*16	1	C34
071	Dip capacity 2200uF 10V 105	10*20,RADIAL,KZE	2	C33
072	Dip capacity 220uF 16V 105	6*11,RADIAL,KY	1	C32
073	Dip capacity 1000uF 16V 105	10*16,RADIAL,KZE	1	C28
074	Dip capacity 2200uF 16V 105	10*25 ,RADIAL,KZE	1	C29, C30
075	Dip capacity 1uF 50V 105	KMG 5*11	1	C35
076	Dip capacity 4.7uF 50V 105	KMG 5*11	1	C15
077	Dip capacity 10uF 50V 105	KMG 5*11	2	C5,C38
078	Dip capacity 22uF 50V 105	KMG 5*11	1	C6
079	Dip capacity 180uF 450V 105	22*40,RADIAL,KMQ	1	C16
080	MPE capacity 1uF 400V ±20%	26X8X17mm	1	C9
081	X1 capacity 0.47uF 275V +/-20%	8*20*16mm	1	C4
082	Y1 capacity 472P 400V ±20%	19X8X10mm	1	C23
083	Y2 capacity 222 250V ±20%	D 8mm F10mm T4mm	2	C2,C3
084	Common choke TRN0197	EMI FILTER 9mH V1.0	2	L1,L1A
085	Ring choke TRN0198	PFC CHOKE 1mH V1.0	1	L2
086	Drww core TRN0199	5VSB 10uH CHOKE V1.0	1	L3
087	MAG AMP TRN0200	Mag Amp 1.6mH V1.0	1	L4
088	Rod core TRN0201	12V 1.8uH CHOKE V1.0	1	L5
089	Rod core TRN0202	5V 2uH CHOKE V1.0	1	L6
090	Ring core TRN0203	80Plus ATX-300W(L7)V1.0	1	L7
091	Rod core TRN0204	3.3V 2.5uH CHOKE V1.0	1	L8
092	Multi-choker TRN0205	80Plus ATX-300W(L9)V1.1	1	L9
093	BEAD Core RH 3.5*3.2*1.0		1	Q2
094	Transformer TRN0206	80Plus ATX-300W(TX1)V1.1(40uH)-EEL19	1	TX1
095	Transformer TRN0207	Pluse Transfer (TX2)V2.0-EI12.5	1	TX2
096	Transformer TRN0208	80Plus ATX-300W(TX3)V1.3(13mH)-ERL35	1	TX3
097	Diode 1N4007	DO-41	2	D1,D2
098	Diode UF1007	DO-41	1	D4

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Item	Description	Type	Quantity	Location
099	Diode FR103	DO-41	1	D6
100	Diode FR107	DO-41	1	D12
101	Diode SF34 TAPING	DO-210AD 3A/200V	2	D14,D15
102	Diode BYC10600	TO220AC 10A/600V	1	D7
103	Diode FR157	DO-15	4	D8,D9,D17,D18
104	Schottky Diode SB540 Stand Type	DO-210AD 5A/40V	1	D3
105	Schottky Diode STPS20L60CT	20A/60V TO-220	2	D10,D11
106	Schottky Diode PBYR4045WT	40A/45V TO-247	2	D13,D16
107	SMD Diode 1N4148	LL-34	1	D5
108	SMD ZENER 1/2W 6.8V	SOD-80	1	D19
109	Bridge-Diode GBU805/8A/600V	HFA08TB60PBF	1	BD1
110	Transistor 16A/500V TO-247	SPW16N50C3	1	Q1
111	Transistor AP03N70F-A	3A/ 650V TO-220F	1	Q2
112	Transistor PN2907	TO-92	2	Q3,Q7
113	MOSFET IRF840	TO-220	2	Q4,Q5
114	Transistor BD140	TO-126	1	Q6
115	Transistor PN2222	TO-92	1	Q8
116	Regulator TL431 AZ +/-1%	TO92	3	U3,U4,U5
117	IC PC-817A DIP		3	U1,U2,U7
118	IC SMD SG6858		1	U6
119	DIP SG6516		1	U8
120	FUSE GLASS 250V 7AQuick	5mm*20mm	1	F1
121	Varistors 14 ψ 470V		1	MOV
122	CA 52H39L	24P+Peripheral Power*2+12V Power	1	PCB
123	AC INPUT Neutral 160mm 雙沾剝 6mm(20#1015)		1	N
124	AC INPUT Line 160mm 雙沾剝 6mm(20#1015)		1	L
125	HS MCH0521	65mm(L)*40mm(H)*5mm(W)	1	HS1
126	HS3X45-1	45.5(L)mm*30mm(H)*3mm(W)	1	HS2
127	HS MCH0523	80.5(L)*40(H)*5(W)mm	1	HS3
128	KEGNAFU-CORPORATION 5mm	W5	1	JP20
129	KEGNAFU-CORPORATION 7.5mm	W7.5	5	JP2,JP9,JP10,JP11,JP15
130	KEGNAFU-CORPORATION 10mm	W10	9	JP3,JP4,JP5,JP6,JP7,JP8,JP13,JP18,JP21

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Item	Description	Type	Quantity	Location
131	KEGNAFU-CORPORATION 12.5mm	W12.5	3	JP12,JP16,JP19
132	KEGNAFU-CORPORATION 17.5mm	W17.5	2	JP1,JP1A
133	KEGNAFU-CORPORATION 27.5mm		2	NTC2
134	Heat-Shrinkable Tubing8ψ 20mm	8ψ 20mm	2	INELT
135	Silicone Rubbe TO-220		5	D7,D10,D11,Q4,Q5
136	Silicone Rubbe TO-3P		3	Q1,D13,D16
137	Bushing TO-220		5	D7,D10,D11,Q4,Q5
138	Screw nut 3*5 Black		1	D10,D11
139	Wafer head screw 3ψ12mm	MM MACHINE SCREW Black	1	D10,D11
140	Wafer head screw 3ψ8mm	MM MACHINE SCREW Black	4	D7,D13,D16,Q1
141	WAFER 2P 2.54mm 180°	2.54 mm WAFER	1	CN3
142	Wafer head screw 3ψ6mm	MM MACHINE SCREW	6	HS1,HS3,Q4,Q5
143	SE205-0		1	PCB
144	Inlet		1	Inlet

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6931 Card

System General Corp.

BOM LIST: 80Plus ATX 300W 6931 Card

Item	Description	Type	Quantity	Location
001	SMD resistor 0805 0Ω +/-5%		1	JP4
002	SMD resistor 0805 10Ω +/-5%		3	R11,R15,R16
003	SMD resistor 0805 1KΩ +/-5%		1	R9
004	SMD resistor 0805 3.3KΩ +/-5%		2	R2,R3
005	SMD resistor 0805 23K7Ω +/-1%		1	R10
006	SMD resistor 0805 24KΩ +/-5%		1	R5
007	SMD resistor 0805 33KΩ +/-5%		1	R7
008	SMD resistor 0805 56KΩ +/-5%		1	R1
009	SMD resistor 1206 0Ω +/-5%		1	JP5
010	JUMPER WIRE 0.6ψ (mm)	W12.5	1	JP1
011	JUMPER WIRE 0.6ψ (mm)	W15	1	JP3
012	JUMPER WIRE 0.6ψ (mm)	W17.5	1	JP2
013	SMD capacity 0805 471P 50V ±10%	X7R ±10%	2	C3,C10
014	SMD capacity 0805 102P 50V ±10%	X7R ±10%	3	C6,C11,C13
015	SMD capacity 0805 472P 50V ±10%	X7R ±10%	1	C2
016	SMD capacity 0805 473P 50V ±10%	X7R ±10%	1	C5
017	SMD capacity 0805 104P 50V ±10%	X7R ±10%	2	C8,C12
018	SMD capacity 1206 225P 25V ±10%	Y5V +80/-20%	1	C1B
019	Dip capacity 10uF 50V 105	KMG 5*11	1	C7
020	SMD Diode 1N4148	LL-34	1	D2
021	Transistor MMBT2222AK	SOT-23	1	Q1
022	Transistor PN2907	TO-92	2	Q3,Q2
023	IC DIP SG6931		1	U1
024	Pin header right angle type 2.54mm 12P		1	PCB
025	KEGNAFU-CORPORATION 12.5mm	W12.5	1	JP1
026	KEGNAFU-CORPORATION 15mm	W15	1	JP3
027	KEGNAFU-CORPORATION 17.5mm	W17.5	1	JP2
028	SE071-1		1	PCB

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E : Function Check Report

Test Model	PM30006-02	S/N :
Test Date	8.14.2006	
Test Temperature	Ambient	
Test Equipment	AC Source: EXTECH 6220 Electronic Load: Chroma 63030 Multimeter: IDRC CP660 Oscilloscope: Tektronix TDS3014B	
	1	Input Current
	2	Inrush Current
	3	Current Harmonic
	4	DC Output
	5	Cross Regulation
	6	Ripple & Noise
	7	Efficiency
	8	Input Wattage at Stand-by
	9	Output Transient Response
	10	Line Regulation & Load Regulation
	11	OverShoot
	12	UnderShoot
	13	Brownout
	14	DC output rise time at max. load
	15	DC output rise time at min. load.
	16	Short Protection
	17	Hold up time
	18	Power Good (AC on)
	19	Power Fail (AC off)
	20	Power Good (PS-ON on)
	21	Power Fail (PS-ON off)
	22	TOCP
	23	OPP
	24	OCP
	25	SURGE & ESD
	26	Temperature
	27	EMI

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Output spec: +5V 12A(Max) 0.3A(Min)

+3.3V 18A(Max) 0.5A(Min)

+12VA 8A(Max) 1A(Min) 9A(Peak)

+12VB 13A(Max) 1A(Min) 16.5A(Peak)

-12V 0.3A

+5Vsb 2.5A(Max) 3.5A(Peak)

+5V and +3.3V total power not exceed max. 120W

+5V and +3.3V qnd +12V total power not exceed max. 285W

Max. Wattage 300W

Max. Load : +5V 9A ; +3.3V13.5 A ; 12V1 6A ; 12V2 10.5A ; -12V 0.3A ; +5Vsb 2.0A

Mid. Load : +5V 4.5 A ; +3.3V 6.8 A ; 12V1 3 A ; 12V2 5.3A ; -12V 0.1A ; +5Vsb 1.0A

Min. Load : +5V 0.3A ; +3.3V 0.5A ; 12V1 1A ; 12V2 1A ; -12V 0A ; +5Vsb 0A

1. Input Current:

1.1 Test Condition:

Load:Max. Load

Input Current :90V~132V Max. 6A ; 180V~264V Max. 3A

1.2 Test Result :

Vol.	+5V	+12V1	+12V2	+3.3V	-12 V	+5Vsb		
Max Load	9A	6A	10.5A	13.5A	0.3A	2A		
Vin	90V/60Hz		115V/60Hz		230V/50Hz		264V/50Hz	
Input Current	4.34	A	3.28	A	1.59	A	1.38	A

2 Inrush Current:

2.1 Test Condition:

Measure the startup input current waveform at maximum loading

2.2 Test Result :

Input Voltage	Inrush Current
	SG6931
115V/60Hz	29.6A
230V/50Hz	51.8A

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3 Current Harmonic test:

3.1 Test Condition:

Measure input current power factor (PF) and total harmonic distortion(THD) at various line and output loading

3.2 Test Result :

Input Voltage		PF	THD (%)
120V/60Hz	Mid. Load	0.99	10.76%
	Max. Load	1.0	6.30%
240V/50Hz	Mid. Load	0.97	9.58%
	Max. Load	0.99	7.99%

4 DC Output Vin= 90V~132V&180V~264V

4.1 Test Condition:

Load Regulation
Vout=+/-5% Max. (-12V= +/-10% Max.)

4.2 Test Result :

Vin=90V, Vout=5Vsb/0A	Vo =	5.03V
Vin=90V , Vout=3.3V/0A	Vo =	3.31V
Vin=90V , Vout=5V/0A	Vo =	5.32V
Vin=90V , Vout=12V1/0A	Vo =	11.63V
Vin=90V , Vout=12V2/0A	Vo =	11.62V
Vin=90V , Vout=-12V/0A	Vo =	-10.56V
	Pi =	2.1W
Vin=90V, Vout=5Vsb/0A	Vo =	5.03V
Vin=90V , Vout=3.3V/0.5A	Vo =	3.30V
Vin=90V , Vout=5V/0.3A	Vo =	5.17V
Vin=90V , Vout=12V1/1A	Vo =	12.05V
Vin=90V , Vout=12V2/1A	Vo =	12.03V
Vin=90V , Vout=-12V/0A	Vo =	-11.31V
	Pi =	37.3W
Vin=90V , Vout=5Vsb/2A	Vo =	4.77V

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Vin=90V , Vout=3.3V/13.5A	Vo =	3.07V
Vin=90V , Vout=5V/9A	Vo =	4.97V
Vin=90V , Vout=12V1/6A	Vo =	12.16V
Vin=90V , Vout=12V2/10.5A	Vo =	11.87V
Vin=90V , Vout=-12V/0.3A	Vo =	-11.39V
	Pi =	387.9W
Vin=115V , Vout=5Vsb/2A	Vo =	4.79V
Vin=115V , Vout=3.3V/13.5A	Vo =	3.08V
Vin=115V , Vout=5V/9A	Vo =	4.97V
Vin=115V , Vout=12V1/6A	Vo =	12.15V
Vin=115V , Vout=12V2/10.5A	Vo =	11.86V
Vin=115V , Vout=-12V/0.3A	Vo =	-11.39V
	Pi =	377.3W
Vin=132V , Vout=5Vsb/0A	Vo =	5.03V
Vin=132V , Vout=3.3V/0A	Vo =	3.31V
Vin=132V , Vout=5V/0A	Vo =	5.26V
Vin=132V , Vout=12V1/0A	Vo =	11.79V
Vin=132V , Vout=12V2/0A	Vo =	11.77V
Vin=132V , Vout=-12V/0A	Vo =	-10.66V
	Pi =	2.2W
Vin=132V , Vout=5Vsb/0A	Vo =	5.03V
Vin=132V , Vout=3.3V/0.5A	Vo =	3.30V
Vin=132V , Vout=5V/0.3A	Vo =	5.17V
Vin=132V , Vout=12V1/1A	Vo =	12.04V
Vin=132V , Vout=12V2/1A	Vo =	12.03V
Vin=132V , Vout=-12V/0A	Vo =	-11.30V
	Pi =	36.8W
Vin=132V , Vout=5Vsb/2A	Vo =	4.82V
Vin=132V , Vout=3.3V/13.5A	Vo =	3.11V
Vin=132V , Vout=5V/9A	Vo =	4.97V

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Vin=132V , Vout=12V1/6A	Vo =	12.16V
Vin=132V, Vout=12V2/10.5A	Vo =	11.93V
Vin=132V , Vout=-12V/0.3A	Vo =	-11.40V
	Pi =	373.2W
Vin=180V, Vout=5Vsb/0A	Vo =	5.03V
Vin=180V , Vout=3.3V/0A	Vo =	3.31V
Vin=180V , Vout=5V/0A	Vo =	5.30V
Vin=180V , Vout=12V1/0A	Vo =	11.69V
Vin=180V , Vout=12V2/0A	Vo =	11.68V
Vin=180V , Vout=-12V/0A	Vo =	-10.61V
	Pi =	1.9W
Vin=180V, Vout=5Vsb/0A	Vo =	5.03V
Vin=180V , Vout=3.3V/0.5A	Vo =	3.30V
Vin=180V , Vout=5V/0.3A	Vo =	5.17V
Vin=180V , Vout=12V1/1A	Vo =	12.05V
Vin=180V , Vout=12V2/1A	Vo =	12.03V
Vin=180V , Vout=-12V/0A	Vo =	-11.31V
	Pi =	36.3W
Vin=180V , Vout=5Vsb/2A	Vo =	4.77V
Vin=180V , Vout=3.3V/13.5A	Vo =	3.13V
Vin=180V , Vout=5V/9A	Vo =	4.97V
Vin=180V , Vout=12V1/6A	Vo =	12.16V
Vin=180V, Vout=12V2/10.5A	Vo =	11.88V
Vin=180V , Vout=-12V/0.3A	Vo =	-11.36V
	Pi =	367.4W
Vin=230V , Vout=5Vsb/2A	Vo =	4.78V
Vin=230V , Vout=3.3V/13.5A	Vo =	3.12V
Vin=230V , Vout=5V/9A	Vo =	4.97V
Vin=230V , Vout=12V1/6A	Vo =	12.15V
Vin=230V, Vout=12V2/10.5A	Vo =	11.83V

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Vin=230V , Vout=-12V/0.3A	Vo =	-11.35V
	Pi =	364.5W
Vin=264V , Vout=5Vsb/0A	Vo =	5.03V
Vin=264V , Vout=3.3V/0A	Vo =	3.31V
Vin=264V , Vout=5V/0A	Vo =	5.31V
Vin=264V , Vout=12V1/0A	Vo =	11.68V
Vin=264V , Vout=12V2/0A	Vo =	11.67V
Vin=264V , Vout=-12V/0A	Vo =	-10.60V
	Pi =	1.9W
Vin=264V , Vout=5Vsb/0A	Vo =	5.03V
Vin=264V , Vout=3.3V/0.5A	Vo =	3.30V
Vin=264V , Vout=5V/0.3A	Vo =	5.17V
Vin=264V , Vout=12V1/1A	Vo =	12.05V
Vin=264V , Vout=12V2/1A	Vo =	12.03V
Vin=264V , Vout=-12V/0A	Vo =	-11.30V
	Pi =	36.0W
Vin=264V , Vout=5Vsb/2A	Vo =	4.79V
Vin=264V , Vout=3.3V/13.5A	Vo =	3.12V
Vin=264V , Vout=5V/9A	Vo =	4.97V
Vin=264V , Vout=12V1/6A	Vo =	12.16V
Vin=264V , Vout=12V2/10.5A	Vo =	11.88V
Vin=264V , Vout=-12V/0.3A	Vo =	-11.35V
	Pi =	363.5W

5 Cross Regulation (VIN = 115V/60Hz&230V/50Hz ; 5VSB/0A)

5.1 Test Condition:

Load Regulation
Vout=+/-5% Max. (-12V= +/-10% Max.)

5.2 Test Result :

Vin=115V , Vout=3.3V/13.5A	Vo =	3.16V
Vin=115V , Vout=5V/0.3A	Vo =	5.13V

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Vin=115V ,Vout=12V1/1A	Vo =	12.01V
Vin=115V ,Vout=12V2/1A	Vo =	12.01V
Vin=115V ,Vout=-12V/0.1A	Vo =	-11.14V
Vin=115V ,Vout=3.3V/0.5A	Vo =	3.28V
Vin=115V ,Vout=5V/9A	Vo =	4.97V
Vin=115V ,Vout=12V1/1A	Vo =	12.49V
Vin=115V ,Vout=12V2/1A	Vo =	12.48V
Vin=115V ,Vout=-12V/0.1A	Vo =	-11.42V
Vin=115V ,Vout=3.3V/0.5A	Vo =	3.29V
Vin=115V ,Vout=5V/0.3A	Vo =	5.18V
Vin=115V ,Vout=12V1/6A	Vo =	11.90V
Vin=115V ,Vout=12V2/1A	Vo =	11.95V
Vin=115V ,Vout=-12V/0.1A	Vo =	-11.17V
Vin=115V ,Vout=3.3V/0.5A	Vo =	3.29V
Vin=115V ,Vout=5V/0.3A	Vo =	5.21V
Vin=115V ,Vout=12V1/1A	Vo =	11.91V
Vin=115V ,Vout=12V2/10.5A	Vo =	11.49V
Vin=115V ,Vout=-12V/0.1A	Vo =	-11.19V
Vin=115V ,Vout=3.3V/13.5A	Vo =	3.14V
Vin=115V ,Vout=5V/9A	Vo =	4.91V
Vin=115V ,Vout=12V1/1A	Vo =	12.51V
Vin=115V ,Vout=12V2/1A	Vo =	12.52V
Vin=115V ,Vout=-12V/0.1A	Vo =	-11.44V
Vin=115V ,Vout=3.3V/13.5A	Vo =	3.14V
Vin=115V ,Vout=5V/0.3A	Vo =	5.15V
Vin=115V ,Vout=12V1/6A	Vo =	11.85V
Vin=115V ,Vout=12V2/1A	Vo =	11.92V
Vin=115V ,Vout=-12V/0.1A	Vo =	-11.18V
Vin=115V ,Vout=3.3V/13.5A	Vo =	3.15V
Vin=115V ,Vout=5V/0.3A	Vo =	5.17V

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Vin=115V ,Vout=12V1/1A	Vo =	11.86V
Vin=115V ,Vout=12V2/10.5A	Vo =	11.46V
Vin=115V ,Vout=-12V/0.1A	Vo =	-11.20V
Vin=115V ,Vout=3.3V/0.5A	Vo =	3.27V
Vin=115V ,Vout=5V/9A	Vo =	4.99V
Vin=115V ,Vout=12V1/6A	Vo =	12.31V
Vin=115V ,Vout=12V2/1A	Vo =	12.38V
Vin=115V ,Vout=-12V/0.1A	Vo =	-11.47V
Vin=115V ,Vout=3.3V/0.5A	Vo =	3.27V
Vin=115V ,Vout=5V/9A	Vo =	5.02V
Vin=115V ,Vout=12V1/1A	Vo =	12.32V
Vin=115V ,Vout=12V2/10.5A	Vo =	11.89V
Vin=115V ,Vout=-12V/0.1A	Vo =	-11.50V
Vin=115V ,Vout=3.3V/0.5A	Vo =	3.28V
Vin=115V ,Vout=5V/0.3A	Vo =	5.22V
Vin=115V ,Vout=12V1/6A	Vo =	11.75V
Vin=115V ,Vout=12V2/10.5A	Vo =	11.38V
Vin=115V ,Vout=-12V/0.1A	Vo =	-11.23V
Vin=230V ,Vout=3.3V/13.5A	Vo =	3.16V
Vin=230V ,Vout=5V/0.3A	Vo =	5.13V
Vin=230V ,Vout=12V1/1A	Vo =	12.00V
Vin=230V ,Vout=12V2/1A	Vo =	12.00V
Vin=230V ,Vout=-12V/0.1A	Vo =	-11.13V
Vin=230V ,Vout=3.3V/0.5A	Vo =	3.28V
Vin=230V ,Vout=5V/9A	Vo =	4.97V
Vin=230V ,Vout=12V1/1A	Vo =	12.49V
Vin=230V ,Vout=12V2/1A	Vo =	12.48V
Vin=230V ,Vout=-12V/0.1A	Vo =	-11.41V
Vin=230V ,Vout=3.3V/0.5A	Vo =	3.29V
Vin=230V ,Vout=5V/0.3A	Vo =	5.18V

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Vin=230V ,Vout=12V1/6A	Vo =	11.89V
Vin=230V ,Vout=12V2/1A	Vo =	11.94V
Vin=230V ,Vout=-12V/0.1A	Vo =	-11.17V
Vin=230V ,Vout=3.3V/0.5A	Vo =	3.29V
Vin=230V ,Vout=5V/0.3A	Vo =	5.21V
Vin=230V ,Vout=12V1/1A	Vo =	11.91V
Vin=230V ,Vout=12V2/10.5A	Vo =	11.48V
Vin=230V ,Vout=-12V/0.1A	Vo =	-11.19V
Vin=230V ,Vout=3.3V/13.5A	Vo =	3.14V
Vin=230V ,Vout=5V/9A	Vo =	4.91V
Vin=230V ,Vout=12V1/1A	Vo =	12.51V
Vin=230V ,Vout=12V2/1A	Vo =	12.52V
Vin=230V ,Vout=-12V/0.1A	Vo =	-11.44V
Vin=230V ,Vout=3.3V/13.5A	Vo =	3.14V
Vin=230V ,Vout=5V/0.3A	Vo =	5.15V
Vin=230V ,Vout=12V1/6A	Vo =	11.84V
Vin=230V ,Vout=12V2/1A	Vo =	11.92V
Vin=230V ,Vout=-12V/0.1A	Vo =	-11.18V
Vin=230V ,Vout=3.3V/13.5A	Vo =	3.14V
Vin=230V ,Vout=5V/0.3A	Vo =	5.17V
Vin=230V ,Vout=12V1/1A	Vo =	11.86V
Vin=230V ,Vout=12V2/10.5A	Vo =	11.45V
Vin=230V ,Vout=-12V/0.1A	Vo =	-11.20V
Vin=230V ,Vout=3.3V/0.5A	Vo =	3.27V
Vin=230V ,Vout=5V/9A	Vo =	4.99V
Vin=230V ,Vout=12V1/6A	Vo =	12.31V
Vin=230V ,Vout=12V2/1A	Vo =	12.38V
Vin=230V ,Vout=-12V/0.1A	Vo =	-11.47V
Vin=230V ,Vout=3.3V/0.5A	Vo =	3.27V
Vin=230V ,Vout=5V/9A	Vo =	5.02V

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Vin=230V ,Vout=12V1/1A	Vo =	12.32V
Vin=230V ,Vout=12V2/10.5A	Vo =	11.89V
Vin=230V ,Vout=-12V/0.1A	Vo =	-11.50V
Vin=230V ,Vout=3.3V/0.5A	Vo =	3.28V
Vin=230V ,Vout=5V/0.3A	Vo =	5.22V
Vin=230V ,Vout=12V1/6A	Vo =	11.75V
Vin=230V ,Vout=12V2/10.5A	Vo =	11.54V
Vin=230V ,Vout=-12V/0.1A	Vo =	-11.25V

6 Ripple & Noise

6.1 Test Condition:

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

6.2 Test Result :

Vin=90V , Vout=5Vsb/2A	28.8mV
Vin=90V , Vout=3.3V/13.5A	18.0mV
Vin=90V , Vout=5V/9A	16.8mV
Vin=90V, Vout=12V1/6A	20.4mV
Vin=90V, Vout=12V2/10.5A	31.6mV
Vin=90V , Vout=-12V/0.3A	78.0mV

7 Efficiency >80%

7.1 Test Condition:

Measure efficiency at 20%, 50% and 100% loading Must 80%

7.2 Test Result :

	Input Watts	Output Watts	Efficiency
A. When Vin= 115V, at 100% load	378.1W	299.9W	79.10%
B. When Vin= 115V, at 50% load	183.5W	151.66W	82.64%
C. When Vin= 115V, at 20% load	75.10W	60.43W	80.46%
D. When Vin= 230V, at 100% load	365.3W	306.06W	83.78%
E. When Vin= 230V, at 50% load	179.3W	151.65W	84.57%
F. When Vin= 230V, at 20% load	73.67W	60.42W	82.01%

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8 Input Wattage at Stand-by

8.1 Test Condition:

The input wattage should be less than 1W at standby mode with 0.5W loading

8.2 Test Result :

	Input Watts	Output Watts	Efficiency
A. When Vin= 115V, with 0.5W loading	0.76W	0.508W	66%
B. When Vin= 230V, with 0.5W loading	0.91W	0.508W	55%
C. When Vin= 240V, with 0.5W loading	0.92W	0.508W	55%
D. When Vin= 264V, with 0.5W loading	0.97W	0.508W	52%

9 Output Transient Response (Vin=115Vac ; Io= 20% ~ 80% Full load):

9.1 Test Condition:

summarizes the expected output transient step sizes for each output. The transient load slew rate is = 1.0 A/μs.

Output	Max. step size (% of rated output amps per Sec 3.2.3) ⁽¹⁾	Max. step size (amps)
+12 V1DC	40%	
+12 V2DC	60%	
+5 VDC	30%	
+3.3 VDC	30%	
-12 VDC		0.1 A
+5 VSB		0.5 A

⁽¹⁾ For example, for a rated +5 VDC output of 18 A, the transient step would be 30% × 18 A = 5.4 A

9.2 Test Result :

	Max. Load	Min. Load
Vin=115V , Vout=3.3V	808mV	736mV
Vin=115V , Vout=5V	252mV	242mV
Vin=115V , Vout=12V1	154mV	153mV
Vin=115V , Vout=12V2	358mV	330mV

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10 Line Regulation & Load Regulation:

10.1 Test Condition:

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

10.2 Test Result :

	Min. Load				Mid. Load				Max. Load			
Input Voltage	12V1	12V2	5V	3.3V	12V1	12V2	5V	3.3V	12V1	12V2	5V	3.3V
115V60Hz	12.04	12.02	5.17	3.30	12.20	12.09	5.05	3.23	12.15	11.93	4.98	3.14
230V/50Hz	12.04	12.02	5.17	3.30	12.20	12.09	5.05	3.23	12.15	11.93	4.98	3.14
Line Regulation	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Load Regulation	12V1		12V2		5V		3.3V					
	0.91%		0.75%		3.8%		4.8%					

11 OverShoot at (Vin=115Vac& 230Vac ; Io= Min & Max. Load):

11.1 Test Condition:

Less than 5% of nominal voltage value

11.2 Test Result :

	115Vac		230Vac	
	Min	Max	Min	Max
Vout=3.3V	160 mV	120 mV	100 mV	160 mV
Vout=5V	0 mV	0 mV	0 mV	0 mV
Vout=12V1	0 mV	0 mV	0 mV	0 mV
Vout=12V2	0 mV	0 mV	0 mV	0 mV
Vout=-12V	0 mV	0 mV	0 mV	0 mV
Vout=5Vsb	220 mV	240 mV	240 mV	280 mV

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12 UnderShoot at (Vin=115Vac& 230Vac ; Io= Min & Max. Load):

12.1 Test Condition:

Less than 5% of nominal voltage value

12.2 Test Result :

	115Vac		230Vac	
	Min. Load	Max. Load	Min. Load	Max. Load
Vout=3.3V	0 mV	0 mV	0 mV	0 mV
Vout=5V	0 mV	0 mV	0 mV	0 mV
Vout=12V1	0 mV	0 mV	0 mV	0 mV
Vout=12V2	0 mV	0 mV	0 mV	0 mV
Vout=-12V	0 mV	0 mV	0 mV	0 mV
Vout=5Vsb	0 mV	0 mV	0 mV	0 mV

13 Brownout Test (Output = Full Load)

13.1 Test Condition:

Decrease input AC voltage gradually and measure the turn-off threshold. After DC power off, increase input voltage and measure the recovery threshold.

13.2 Test Result :

Turn off Voltage		Turn on voltage	
Max. Load	Min. load	Max. Load	Min. load
SG6931	SG6931	SG6931	SG6931
78V	75V	85V	80V

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14 DC output rise time at max. load.

14.1 Test Condition:

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

14.2 Test Result :

	LOAD Condition	115Vac/60Hz		230Vac/50Hz	
+5V	9.0A	5.5	ms	5.2	ms
+12V1	6.0A	5.1	ms	5.1	ms
+12V2	10.5A	4.9	ms	5.1	ms
-12V	0.3A	5.2	ms	5.2	ms
+3.3V	13.5A	3.2	ms	3.3	ms
+5Vsb	2A	1.2	ms	1.1	ms

15 DC output rise time at min. load.

15.1 Test Condition:

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

15.2 Test Result :

	LOAD Condition	115Vac/60Hz		230Vac/50Hz	
+5V	0.3A	5.2	ms	3.2	ms
+12V1	1.0A	4.3	ms	4.3	ms
+12V2	1.0A	4.4	ms	4.4	ms
-12V	0A	6.6	ms	6.8	ms
+3.3V	0.5A	2.4	ms	2.3	ms
+5Vsb	0A	0.8	ms	0.7	ms

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16 Short Protection

16.1 Test Condition:

In case of short circuit on any DC output, the power supply should be protected without damage.

16.2 Test Result :

	90V					264V				
	+5V	+12V1	+12V2	+3.3V	+5Vsb	+5V	+12V1	+12V2	+3.3V	+5Vsb
Max Load	9.0A	6.0A	10.5A	13.5A	1A	9.0A	6.0A	10.5A	13.5A	1A
	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS
Min Load	0.3A	1A	1A	0.5A	0A	0.3A	1A	1A	0.5A	0A
	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS	PASS

17 Hold up time

17.1 Test Condition:

After AC power off, the output voltages should stay at nominal value for at least 17ms.

17.2 Test Result :

	+5V	+12V1	+12V2	+3.3V	-12 V	+5Vsb		
Max Load	9.0A	6.0A	10.5A	13.5A	0.3A	2A		
Vin	90V/60Hz		115/60Hz		230V/50Hz		264V/50Hz	
Hold up time	18.3	ms	18.3	ms	18.3	ms	18.3	ms

18 Power Good: (AC on)

18.1 Test Condition:

Load: Max. load
PG-Delay Time Exceeds 100ms~500ms

18.2 Test Result :

	+5V	+12V1	+12V2	+3.3V	-12 V	+5Vsb
Max Load	9.0A	6.0A	10.5A	13.5A	0.3A	2A
Vin	115V/60Hz			230V/50Hz		
PG TIME	348		ms	322		ms

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19 Power Fail: (AC off)

19.1 Test Condition:

Load: Max. load During AC power off, the PG signal should go low at least 1ms before the 5V output down to 4.75V

19.2 Test Result :

	+5V	+12V1	+12V2	+3.3V	-12 V	+5Vsb		
Max Load	9.0A	6.0A	10.5A	13.5A	0.3A	2A		
Vin	90V/60Hz		115V/60Hz		230V/50Hz		264V/50Hz	
PF Time	5.6	ms	5.6	ms	5.6	ms	5.6	ms

20 Power Good:(PS-ON on)

20.1 Test Condition:

Load: Max. load
PG-Delay Time Exceeds 100ms~500ms

20.2 Test Result :

	+5V	+12V1	+12V2	+3.3V	-12 V	+5Vsb
Max Load	9.0A	6.0A	10.5A	13.5A	0.3A	2A
Vin	115V/60Hz			230V/50Hz		
PG Time	316		ms	290		ms

21 Power Fail: (PS-ON off)

21.1 Test Condition:

Load: Max. load During PS-ON off, the PG signal should go low at least 1ms before the 5V output down to 4.75V

21.2 Test Result :

	+5V	+12V1	+12V2	+3.3V	-12 V	+5Vsb
Max Load	9.0A	6.0A	10.5A	13.5A	0.3A	2A
Vin	115V/60Hz			230V/50Hz		
PF Time	6.1		ms	6.2		ms

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22 TOCP

22.1 Test Condition:

Load: Min. Load
TOCP Time Exceeds 15ms~25ms

22.2 Test Result :

	+5V	+12V1	+12V2	+3.3V	-12 V	+5Vsb		
Min Load	0.3A	1.0A	1.0A	0.5A	0A	0A		
Vout	+5V		+12V1		+12V2		+3.3V	
TOCP Time	15	ms	17	ms	17	ms	16	ms

23 OPP Test

23.1 Test Condition:

An over current from the output return line will not damage the power supply the protection will be enable if the output power exceeds 360W~480W

23.2 Test Result :

	+5V		+12V1		+12V2		+3.3V		-12 V		+5Vsb	
Max Load	9.0A		6.0A		10.5A		13.5A		0.3A		2A	
Vin	90V		115V		132V		180V		230V		264V	
OPP	377	W	399	W	400	W	401	W	402	W	403	W

24 OCP Test:

24.1 Test Condition:

Each DC output should not exceed 240VA during over loading test

24.2 Test Result :

	+5V		+12V1		+12V2		+3.3V	
Load	1.0A		1.0A		1.0A		1.0A	
Vin 115V OCP	16.4	A	16.4	A	16.4	A	23.8	A
Vin 230V OCP	16.6	A	16.4	A	16.4	A	23.3	A

25 SURGE & ESD

ESD : Air : +/-16KV PASS

Contact : +/- 8KV PASS

SURGE : L/N-PG +/- 2.8KV PASS

L-N +/- 2KV PASS

Doc.Title	Function Check Report	Instituted by	SE
Doc.Number	A0	Page Number	30/62

26 Temperature:

26.1 Test Condition:

Max. load & total combined output 3.3V& 5V is=120W when input voltage is 90V/60Hz

26.2 Test Result:

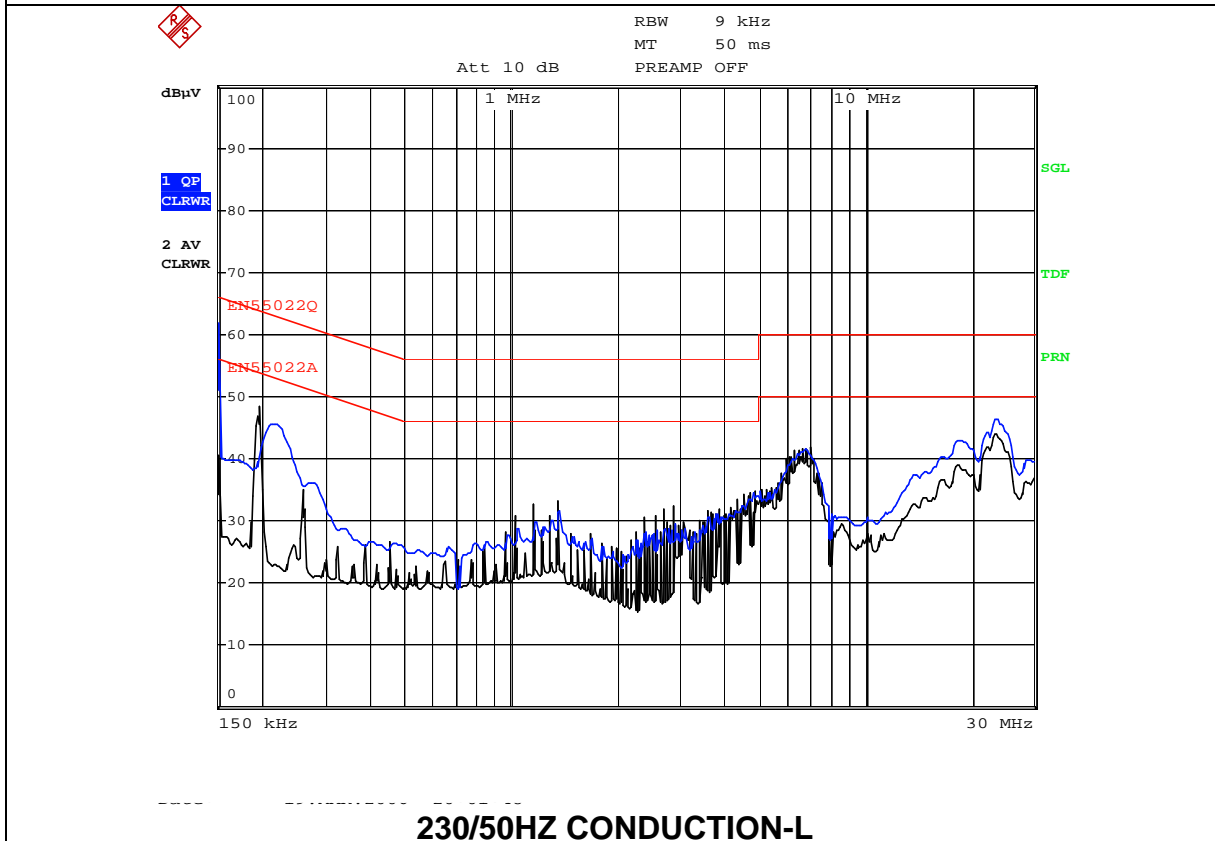
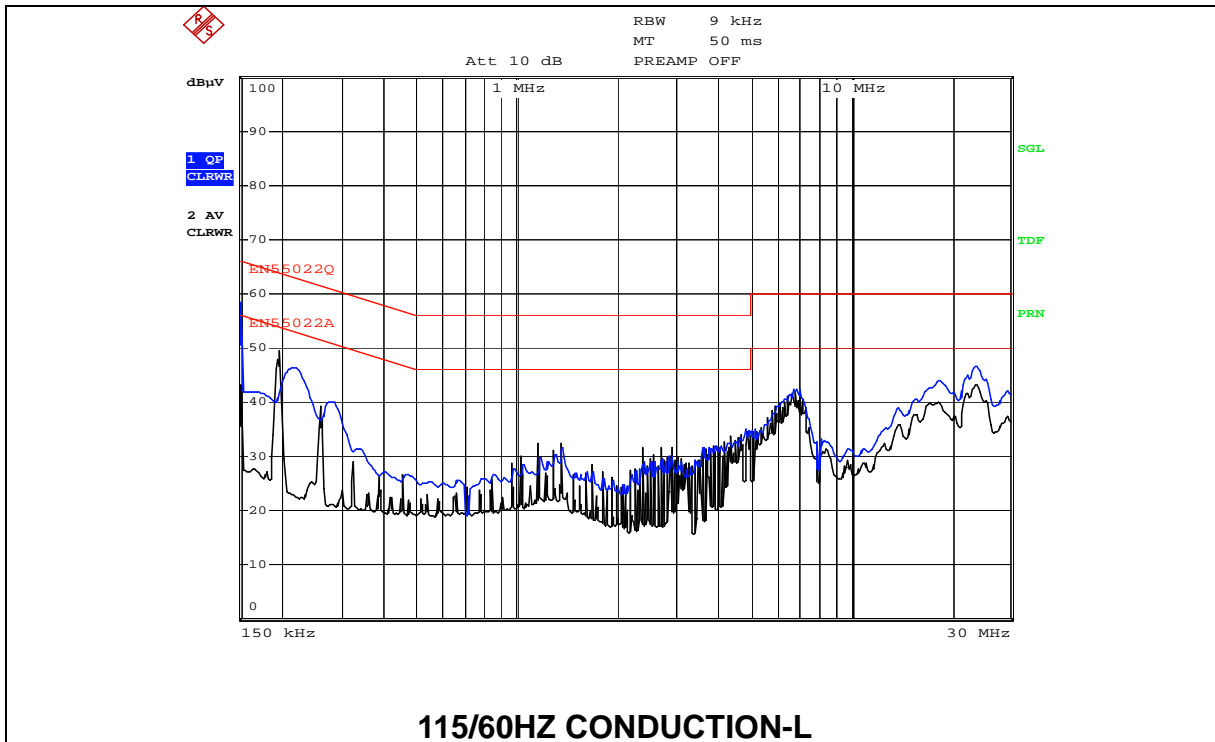
@ 5Vsb=2.0A 3.3VDC=18A 5VDC=12A 12V1DC=6A 12V2DC=8A -12VDC=0.3A

12CM FAN

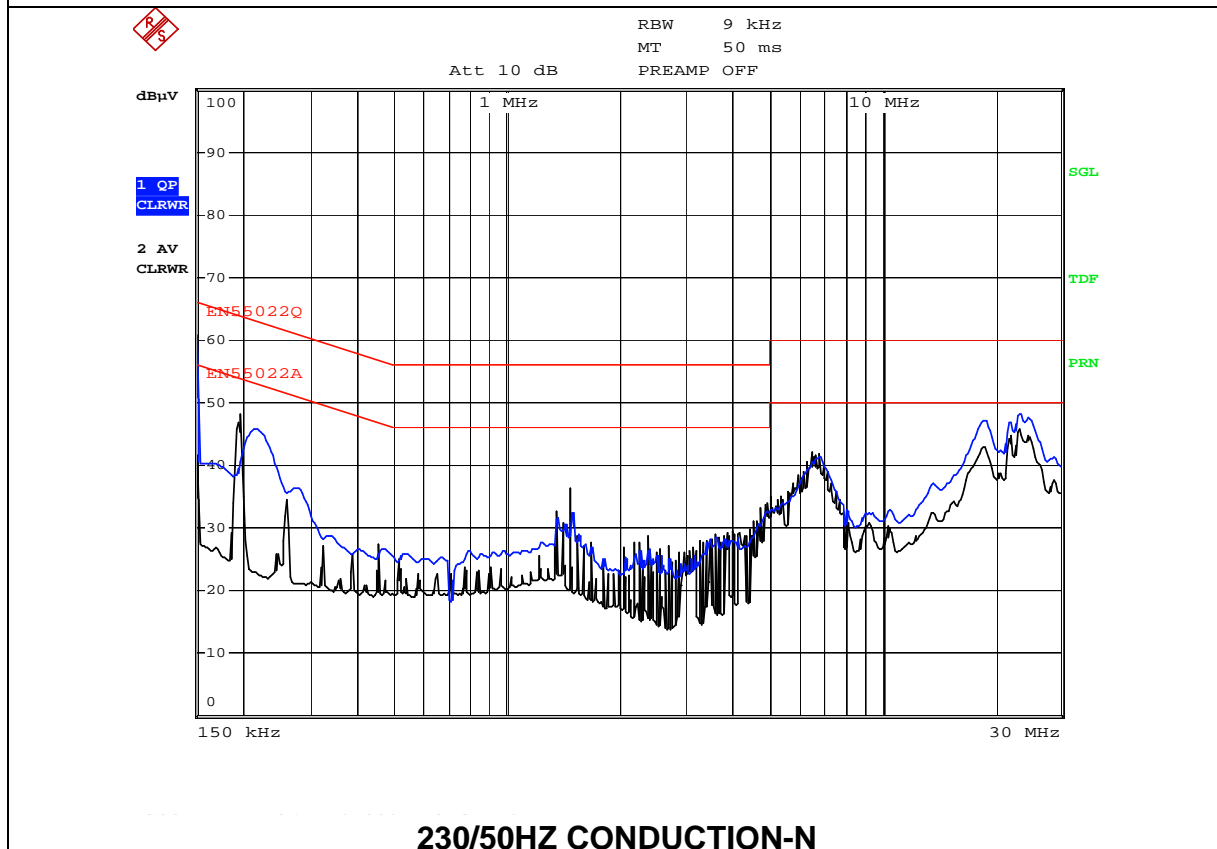
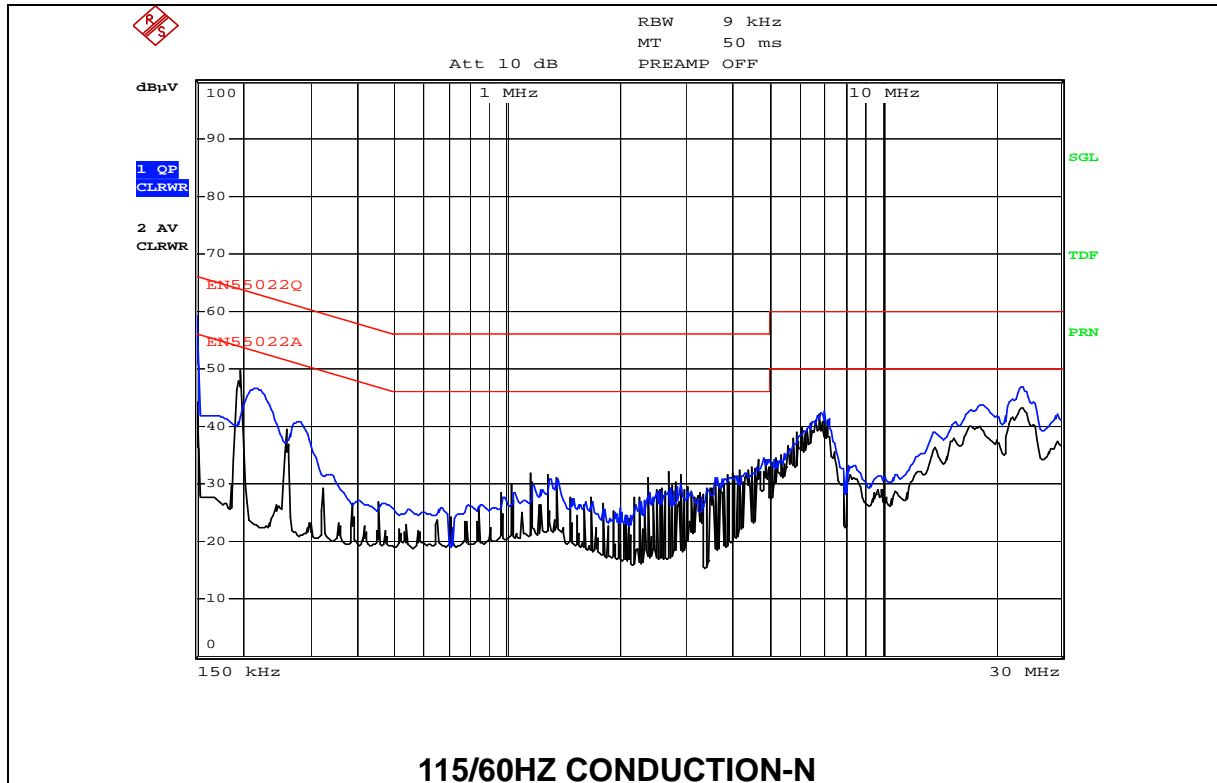
		0hr	1hr	5hr
1	Environment temperature	24.8	27.5	28.8
2	L1	28.8	41.3	41.5
3	BD1	28.6	72.4	71.8
4	L2(PFC CHOKE)	30.6	56.5	55.9
5	HS1	30.0	78.2	76.8
6	Q1	29.4	79.3	78.2
7	D7	29.5	69.3	66.5
8	NTC3 PCB	29.2	60.4	60.8
9	C16	30.0	38.2	37.3
10	HS2	30.0	65.9	65.5
11	Q4	29.8	63.3	64.0
12	Q2	29.2	45.8	46.7
13	TX1 Body	30.9	48.9	49.7
14	TX1 Core	32.0	51.7	51.3
15	TX3 Body	32.3	56.8	55.9
16	TX3 Core	33.4	49.8	48.6
17	TX2Core	28.8	42.4	41.3
18	HS3	28.5	59.0	58.0
19	L7	28.1	47.4	47.7
20	L9	28.1	47.8	47.4

Doc.Title	Function Check Report	Instituted by	SE
Doc.Number	A0	Page Number	31/62

27 EMI Conduction:



Doc.Title	Function Check Report	Instituted by	SE
Doc.Number	A0	Page Number	32/62



Doc.Title	Transformer & Output Inductor	Instituted by	SE
Doc.Number	A0	Page Number	33/62

F : Transformer & Output Inductor

System General Corp.

Doc.Title	ATX-300W(TX1)	Institute by	SE
Doc.Number	80Plus ATX-300W(TX1)V1.1	Page Number	1 / 3 頁

Transformer Specification

變壓器規格書

Name : TX1
Version :
Date : 2006/6/29
Designer : Canny

1 Safety reference standard 安全參考標準:

IEC950

2 Surface, Structure 外觀, 機構:

2.1 Surface: damage, rusting, etc. are not permitted

外觀: 不允許損壞, 生鏽等.

2.2 The shape, dimension and marking of the transformer: are as below mention.

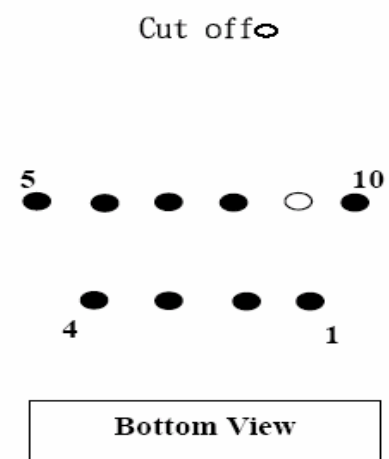
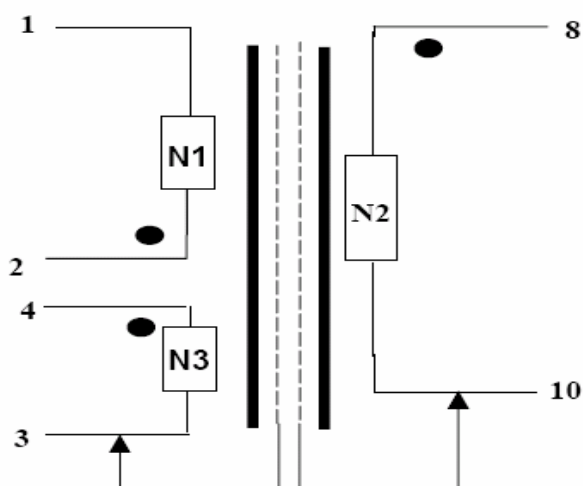
外型, 尺寸和變壓器製造: 如下所述.

3 Mechanical Performance 機械性能:

Terminal strength: Each terminal of the transformer must be withstanding a pull 1.5Kg for 10 second, without loosening, breaking.

終端強度: 變壓器每一個終端(pin)面必須能夠承受 1.5Kg 的推力 10 秒, 沒有脫落, 損壞.

4 Electrical:



Doc.Title	Transformer & Output Inductor	Instituted by	SE
Doc.Number	A0	Page Number	34/62

System General Corp.

Doc.Title	ATX-300W(TX1)	Institute by	SE
Doc.Number	80Plus ATX-300W(TX1)V1.1	Page Number	2 / 3 頁

5 Structure:

層 數 Winding	終端(pin) Terminal		銅線尺寸 Wire Gauge (mm)	繞線圈數 (T)	感 量 Inductance		備註 Note
	Bobbin						
N1	3mm marge type	2→1	0.2 ϕ *1	105	1.2mH	3mm marge type	+/-5% , 1V/1KV
	Mylar Tape *2T						
P1	3mm marge type	Copper-Foli 0.05mm →PIN3 1.2Ts Open loop				3mm marge type	Copper-Foli Width 12mm
	Mylar Tape *3T						
N2	3mm marge type	8→10	0.55 ϕ *2	9		3mm marge type	
	Mylar Tape *3T						
P2	3mm marge type	Copper-Foli 0.05mm →PIN10 1.2Ts Open loop				3mm marge type	Copper-Foli Width 12mm
	Mylar Tape *2T						
N3	3mm marge type	4→3	0.2 ϕ * 1	30		3mm marge type	
	Mylar Tape *3T						
	Core – EEL-19						
	Copper-Foli →PIN3 1.2Ts Open loop						
	Mylar Tape *3T						

- Each Winding (including P1,P2 Copper Foil)drow out with Tubing 。

6 Materials List:

Component Part.	Material	Manufacture	UL File No.
Bobbin	TF-1916-1 (EEL-19)	Shulin Bobbin	
Core	PC-40		
Wire	UEW-B	Chen Yih wire co. ltd.	E154709(S)
	UEW-2	Jung Shing wire co. ltd.	E79029(S)
	UEW	Tai-I electric wire & cable co. ltd.	E85640(S)

Doc.Title	Transformer & Output Inductor	Instituted by	SE
Doc.Number	A0	Page Number	35/62

System General Corp.

Doc.Title	ATX-300W(TX1)	Institute by	SE
Doc.Number	80Plus ATX-300W(TX1)V1.1	Page Number	3 / 3 頁

Varnish	BC-346A	John C Dolph Co. ltd.	E51047(M)
	468-2FC	Ripley resin engineering co. ltd.	E81777(N)
Insulation Tape	1350	Minnesota mining & MFC co. ltd.	E17385(N)
	31CT	Nitto denko co.	E34833(M)
	749FC	Tennich international co.	E154354(S)
	DTS-204	Duck Sung tape co. ltd.	E105147(S)
Margin Tape	44	Minnesota mining & MFG co.	E17385(N)
	40	Tesa tuck inc.	E20780(N)
	T-750-AS	Ideal tape co. inc.	E82910(M)
Shield	Copper foil	Hitachi cable ltd.(0.05*18mm)	

7 Insulation 絕緣:

Outerwrap: 外部包裹:	Three layers min.; 0.025mm/layer polyester film tape total 0.075mm. 最少 3 層, 0.025mm/每層, 多元酯薄膜膠帶; 總共 0.075mm.
Primary to Primary: 初級到初級:	One layer min.; 0.025mm polyester film tape. 最少 1 層, 0.025mm 多元酯薄膜膠帶.
Secondary to Primary: 次級到初級:	Three layers min.; 0.025mm/layer Polyester film tape total 0.075mm. 最少 3 層, 0.025mm/每層, 多元酯薄膜膠帶; 總共 0.075mm.
Primary to Core: 初級到鐵心:	Bobbin, 1.0mm min. thick. 繞線軸架; 最小 1.0mm 厚.
Crossover:	One layer min.; 0.025mm polyester film tape. 最少 3 層, 0.025mm/每層, 多元酯薄膜膠帶. 總共 0.075mm.

8 Isolation 隔離:

Primary to Secondary 初級到初級:	100M ohms min
Primary to Core 初級到 Core:	100M ohms min.
All winding to each other:	100M ohms min.
Primary to Secondary 初級到初級:	3000VAC, 50/60Hz, 0.5mA max.
Primary to Core 初級到 Core	1500VAC, 50/60Hz, 0.5mA max.

Doc.Title	Transformer & Output Inductor	Instituted by	SE
Doc.Number	A0	Page Number	36/62

System General Corp.

Doc.Title	ATX-300W(TX2)	Institute by	SE
Doc.Number	80Plus ATX-300W(TX2)V2.0	Page Number	1/ 2 頁

Transformer Specification 變壓器規格書

Name : TX2
Version :
Date : 2006/3/10
Designer : Paul

1 Safety reference standard 安全參考標準:
 IEC950

2 Surface, Structure 外觀, 機構:

2.1 Surface: damage, rusting, etc. are not permitted
 外觀: 不允許損壞, 生鏽等.

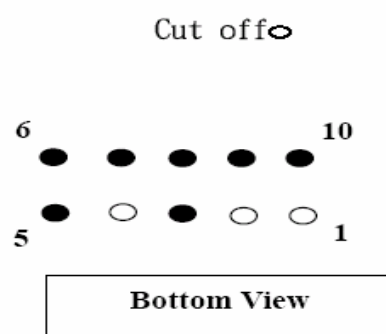
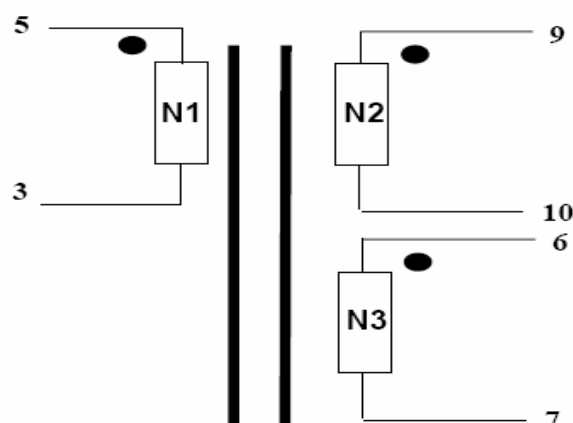
2.2 The shape, dimension and marking of the transformer: are as below mention.
 外型, 尺寸和變壓器製造: 如下所述.

3 Mechanical Performance 機械性能:

Terminal strength: Each terminal of the transformer must be withstanding a pull 1.5Kg for 10 second, without loosening, breaking.

終端強度: 變壓器每一個終端(pin)面必須能夠承受 1.5Kg 的推力 10 秒, 沒有脫落, 損壞.

4 Electrical:



Doc.Title	Transformer & Output Inductor	Instituted by	SE
Doc.Number	A0	Page Number	37/62

System General Corp.

Doc.Title	ATX-300W(TX2)	Institute by	SE
Doc.Number	80Plus ATX-300W(TX2)V2.0	Page Number	2/ 2 頁

5 Structure:

層 數 Winding	終端(pin) Terminal	銅線尺寸 Wire Gauge (mm)	繞線圈數 (T)	感 量 Inductance	備註 Note
Bobbin					
N1	5→3	0.2 ϕ *1	15		
N2	9→10	0.2 ϕ *1	18		triple insulation winding wire
N3	6→7	0.2 ϕ *1	18		
Mylar Tape *3T					
Core – T/EI-12.5					
Mylar Tape *3T					

PIN 5-3 Inductance 210uH(Min.)

1. N1、N2、N3 twisted together
2. N2 use triple insulation winding wire

6 Materials List:

Component Part.	Material	Manufacture	UL File No.
Bobbin	TF-1602-1 (T/EI-12.5)	Shulin bobbin	
Core	PC-40		
Wire	UEW-B	Chen Yih wire co. ltd.	E154709(S)
	UEW-2	Jung Shing wire co. ltd.	E79029(S)
	UEW	Tai-I electric wire & cable co. ltd.	E85640(S)
Varnish	BC-346A	John C Dolph Co. ltd.	E51047(M)
	468-2FC	Ripley resin engineering co. ltd.	E81777(N)
Insulation Tape	1350	Minnesota mining & MFC co. ltd.	E17385(N)
	31CT	Nitto denko co.	E34833(M)
	749FC	Tennich international co.	E154354(S)
	DTS-204	Duck Sung tape co. ltd.	E105147(S)
Margin Tape	44	Minnesota mining & MFG co.	E17385(N)
	40	Tesa tuck inc.	E20780(N)
	T-750-AS	Ideal tape co. inc.	E82910(M)
Shield	Copper foil	Hitachi cable ltd.(0.05*11mm)	

Doc.Title	Transformer & Output Inductor	Instituted by	SE
Doc.Number	A0	Page Number	38/62

System General Corp.

Doc.Title	ATX-300W(TX2)	Institute by	SE
Doc.Number	80Plus ATX-300W(TX2)V2.0	Page Number	3/ 2 頁

7 Insulation 絕緣:

Outerwrap: 外部包裹:	Three layers min.; 0.025mm/layer polyester film tape total 0.075mm. 最少 3 層, 0.025mm/每層, 多元酯薄膜膠帶; 總共 0.075mm.
Primary to Primary: 初級到初級:	One layer min.; 0.025mm polyester film tape. 最少 1 層, 0.025mm 多元酯薄膜膠帶.
Secondary to Primary: 次級到初級:	Three layers min.; 0.025mm/layer Polyester film tape total 0.075mm. 最少 3 層, 0.025mm/每層, 多元酯薄膜膠帶; 總共 0.075mm.
Primary to Core: 初級到鐵心:	Bobbin, 1.0mm min. thick. 繞線軸架; 最小 1.0mm 厚.
Crossover:	One layer min.; 0.025mm polyester film tape. 最少 3 層, 0.025mm/每層, 多元酯薄膜膠帶. 總共 0.075mm.

8 Isolation 隔離:

Primary to Secondary 初級到初級:	100M ohms min
Primary to Core 初級到 Core:	100M ohms min.
All winding to each other:	100M ohms min.
Primary to Secondary 初級到初級:	3000VAC, 50/60Hz, 0.5mA max.
Primary to Core 初級到 Core	1500VAC, 50/60Hz, 0.5mA max.

Doc.Title	Transformer & Output Inductor	Instituted by	SE
Doc.Number	A0	Page Number	39/62

System General Corp.

Doc.Title	ATX-300W(TX3)	Institute by	SE
Doc.Number	80Plus ATX-300W(TX3)V1.4	Page Number	1 / 3 頁

Transformer Specification

變壓器規格書

Name : TX3
Version :
Date : 2006/7/10
Designer : Canny

1 Safety reference standard 安全參考標準:

IEC950

2 Surface, Structure 外觀, 機構:

2.1 Surface: damage, rusting, etc. are not permitted

外觀: 不允許損壞, 生鏽等.

2.2 The shape, dimension and marking of the transformer: are as below mention.

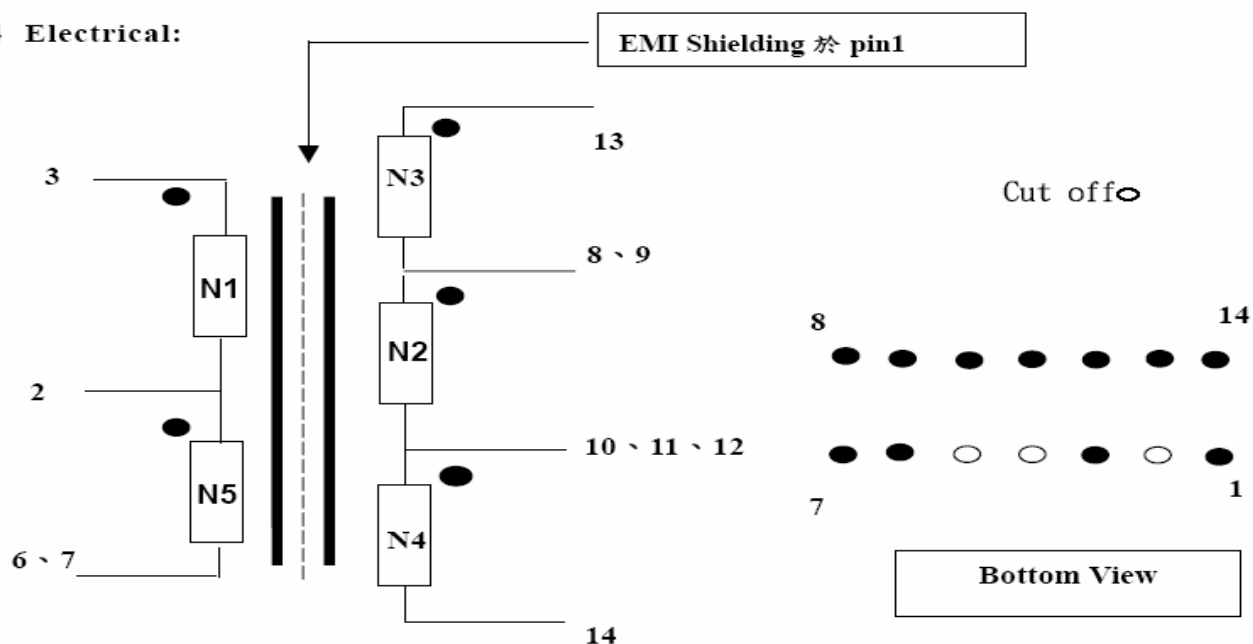
外型, 尺寸和變壓器製造: 如下所述.

3 Mechanical Performance 機械性能:

Terminal strength: Each terminal of the transformer must be withstanding a pull 1.5Kg for 10 second, without loosening, breaking.

終端強度: 變壓器每一個終端(pin)面必須能夠承受 1.5Kg 的推力 10 秒, 沒有脫落, 損壞.

4 Electrical:



Doc.Title	Transformer & Output Inductor	Instituted by	SE
Doc.Number	A0	Page Number	40/62

System General Corp.

Doc.Title	ATX-300W(TX3)	Institute by	SE
Doc.Number	80Plus ATX-300W(TX3)V1.4	Page Number	2 / 3 頁

5 Structure:

Structure							
層 數 Winding	終端(pin) Terminal		銅線尺寸 Wire Gauge (mm)	繞線圈數 (T)	感 量 Inductance		備註 Note
	Bobbin						
N1	3mm marge type	3→2	0.6φ *1	37		3mm marge type	
	Mylar Tape *3T						
N2	3mm marge type	8、9→ 10、11、12	10MIL Copper-Foil* 1	3		3mm marge type	Copper-Foil Width 18mm
	Mylar Tape *1T						
N3	3mm marge type	13→8、9	1.0φ*4	4		3mm marge type	
	Mylar Tape *1T						
N4	3mm marge type	10、11、12 → 14	0.4φ* 1	6		3mm marge type	
	Mylar Tape *1T						
N5	3mm marge type	2 →6、7	0.6φ*1	37		3mm marge type	
	Mylar Tape *3T						
	Core – ER-35						
	Mylar Tape *3T						
	Copper-Foil→pin1 1.2T close loop						
	Mayer Tape * 3T						

PIN 3-6,7 Inductance 13.0mH(Min.)

- Each winding (N1,N2,N3,N4)add Margin Tape upper 3mm and lower 3mm 。
- Each winding(including P1 Copper Foil) draw out with Tubing 。

6 Materials List:

Component Part.	Material	Manufacture	UL File No.
Bobbin	TF-1602-1 (ERL-35)	Shulin Bobbin	

Doc.Title	Transformer & Output Inductor	Instituted by	SE
Doc.Number	A0	Page Number	41/62

System General Corp.

Doc.Title	ATX-300W(TX3)	Institute by	SE
Doc.Number	80Plus ATX-300W(TX3)V1.4	Page Number	3 / 3 頁

Core	PC-40		
Wire	UEW-B	Chen Yih wire co. ltd.	E154709(S)
	UEW-2	Jung Shing wire co. ltd.	E79029(S)
	UEW	Tai-I electric wire & cable co. ltd.	E85640(S)
Varnish	BC-346A	John C Dolph Co. ltd.	E51047(M)
	468-2FC	Ripley resin engineering co. ltd.	E81777(N)
Insulation Tape	1350	Minnesota mining & MFC co. ltd.	E17385(N)
	31CT	Nitto denko co.	E34833(M)
	749FC	Tennich international co.	E154354(S)
	DTS-204	Duck Sung tape co. ltd.	E105147(S)
Margin Tape	44	Minnesota mining & MFG co.	E17385(N)
	40	Tesa tuck inc.	E20780(N)
	T-750-AS	Ideal tape co. inc.	E82910(M)
Shield	Copper foil	Hitachi cable ltd.(0.05*11mm)	

7 Insulation 絕緣:

Outerwrap: 外部包裹:	Three layers min.; 0.025mm/layer polyester film tape total 0.075mm. 最少 3 層, 0.025mm/每層, 多元酯薄膜膠帶; 總共 0.075mm.
Primary to Primary: 初級到初級:	One layer min.; 0.025mm polyester film tape. 最少 1 層, 0.025mm 多元酯薄膜膠帶.
Secondary to Primary: 次級到初級:	Three layers min.; 0.025mm/layer Polyester film tape total 0.075mm. 最少 3 層, 0.025mm/每層, 多元酯薄膜膠帶; 總共 0.075mm.
Primary to Core: 初級到鐵心:	Bobbin, 1.0mm min. thick. 繞線軸架; 最小 1.0mm 厚.
Crossover:	One layer min.; 0.025mm polyester film tape. 最少 3 層, 0.025mm/每層, 多元酯薄膜膠帶. 總共 0.075mm.

8 Isolation 隔離:

Primary to Secondary 初級到初級:	100M ohms min
Primary to Core 初級到 Core:	100M ohms min.
All winding to each other:	100M ohms min.
Primary to Secondary	3000VAC, 50/60Hz, 0.5mA max.

Doc.Title	Transformer & Output Inductor	Instituted by	SE
Doc.Number	A0	Page Number	42/62

System General Corp.

Doc.Title	ATX-300W(L1&L1A)	Institute by	SE
Doc.Number	80Plus ATX-300W(L1&L1A)V1.0	Page Number	1/ 2 頁

Specification **電感器規格書**

Name : L1&L1A
Version :
Date : 2006/3/22
Designer : Paul

1 Surface, Structure 外觀, 機構:

1.1 Surface: damage, rusting, etc. are not permitted

外觀: 不允許損壞, 生鏽等.

1.2 The shape, dimension and marking of the transformer: as below mention

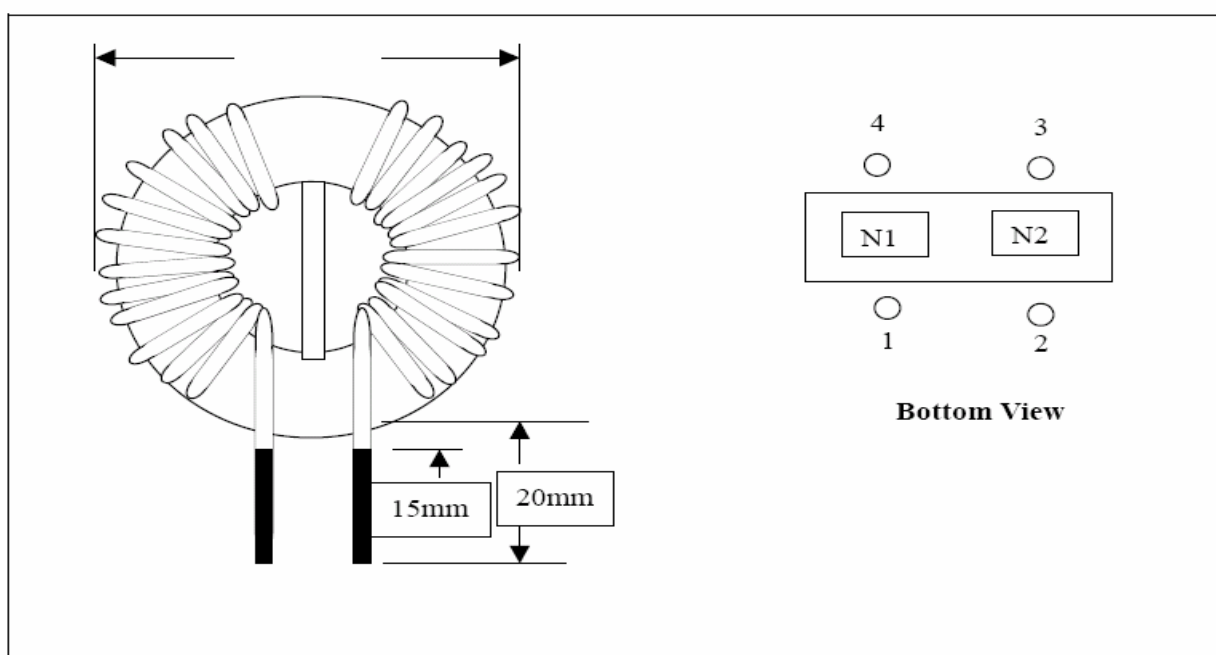
外型, 尺寸和電感器製造: 如下所述.

2 Mechanical Performance 機械性能:

Terminal strength: Each terminal of the transformer must be withstanding a pull 1.5Kg for 10 second, without loosening, breaking of other.

終端強度: 電感器每一個終端(pin)面必須能夠承受 1.5Kg 的推力 10 秒, 沒有脫落, 損壞.

3 Electrical:



Doc.Title	Transformer & Output Inductor	Instituted by	SE
Doc.Number	A0	Page Number	43/62

System General Corp.

Doc.Title	ATX-300W(L1&L1A)	Institute by	SE
Doc.Number	80Plus ATX-300W(L1&L1A)V1.0	Page Number	2/ 2 頁

4 Windings:

層 數 Winding	終 端 (pin) Terminal	銅線尺寸 Wire Gauge (mm)	繞 線 圈 數 (T)	備 註 Note
N1	1 → 4	0.9	30.5	$\geq 8\text{mH}$, 1V/1KHz
N2	2 → 3	0.9	30.5	$\geq 8\text{mH}$, 1V/1KHz

NOTE :

- Between N1&N2 with isolated slab 2mm。
- Each winding draw out with tubing and reserve wire 12mm。

5 Core

Toroids Core TR Type :

RT221408

OD=14mm ; ID=6.6mm ; HT=6.3mm

6 Magnet Wire 漆包線:

Polyurethane Enamel Copper Wire

D.D(UEW) Magnet Wire or DD-NY(尼龍披覆) Magnet Wire

Enduranat Temperature $\geq 120^{\circ}\text{C}$

Pacific; UL E84081

聚氨基酯琺瑯銅線

太平洋; UL E84081(S)

Enduranat Temperature $\geq 120^{\circ}\text{C}$

7 Impregnation 涵浸:

Varnish 凡氣水 ; Ts-2414V(Tesh Chemical Co.)

Doc.Title	Transformer & Output Inductor	Instituted by	SE
Doc.Number	A0	Page Number	44/62

System General Corp.

Doc.Title	ATX-300W(L2)	Institute by	SE
Doc.Number	80Plus ATX-300W(L2)V1.0	Page Number	1/ 2 頁

Specification **電感器規格書**

Name : L2
Version :
Date : 2006/3/20
Designer : Paul

1 Surface, Structure 外觀, 機構:

1.1 Surface: damage, rusting, etc. are not permitted

外觀: 不允許損壞, 生鏽等.

1.2 The shape, dimension and marking of the transformer: as below mention

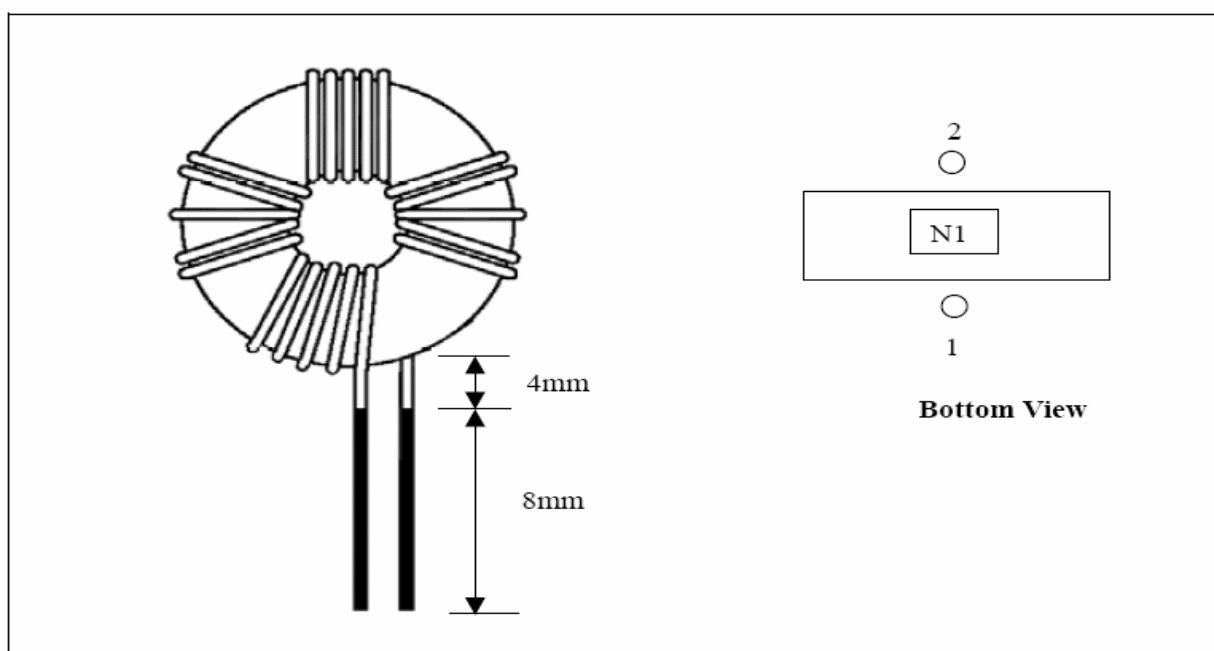
外型, 尺寸和電感器製造: 如下所述.

2 Mechanical Performance 機械性能:

Terminal strength: Each terminal of the transformer must be withstanding a pull 1.5Kg for 10 second, without loosening, breaking of other.

終端強度: 電感器每一個終端(pin)面必須能夠承受 1.5Kg 的推力 10 秒, 沒有脫落, 損壞.

3 Electrical:



Doc.Title	Transformer & Output Inductor	Instituted by	SE
Doc.Number	A0	Page Number	45/62

System General Corp.

Doc.Title	ATX-300W(L2)	Institute by	SE
Doc.Number	80Plus ATX-300W(L2)V1.0	Page Number	2/ 2 頁

4 Windings:

層 數 Winding	終 端 (pin) Terminal	銅線尺寸 Wire Gauge (mm)	繞線圈數 (T)	備註 Note
N1	1 → 2	0.8	117Ts	$\geq 900\mu\text{H}$, 1V/1KHz

5 Core

Toroids Core TR Type :

(CM270060、55894)

OD=26.9mm ; ID=14.7mm ; HT=11.2mm

6 Magnet Wire 漆包線:

Polyurethane Enamel Copper Wire

D.D(UEW) Magnet Wire or DD-NY(尼龍披覆) Magnet Wire

Enduranat Temperature $\geq 120^{\circ}\text{C}$

Pacific; UL E84081

聚氨基酯琺瑯銅線

太平洋; UL E84081(S)

Enduranat Temperature $\geq 120^{\circ}\text{C}$

7 Impregnation 涵浸:

Varnish 凡氣水 ; Ts-2414V(Tesh Chemical Co.)

Doc.Title	Transformer & Output Inductor	Instituted by	SE
Doc.Number	A0	Page Number	46/62

System General Corp.

Doc.Title	ATX-300W(L7)	Institute by	SE
Doc.Number	80Plus ATX-300W(L7)V1.0	Page Number	1/ 2 頁

Specification **電感器規格書**

Name : L7
Version :
Date : 2006/6/13
Designer : Canny

1 Surface, Structure 外觀, 機構:

1.1 Surface: damage, rusting, etc. are not permitted

外觀: 不允許損壞, 生鏽等.

1.2 The shape, dimension and marking of the transformer: as below mention

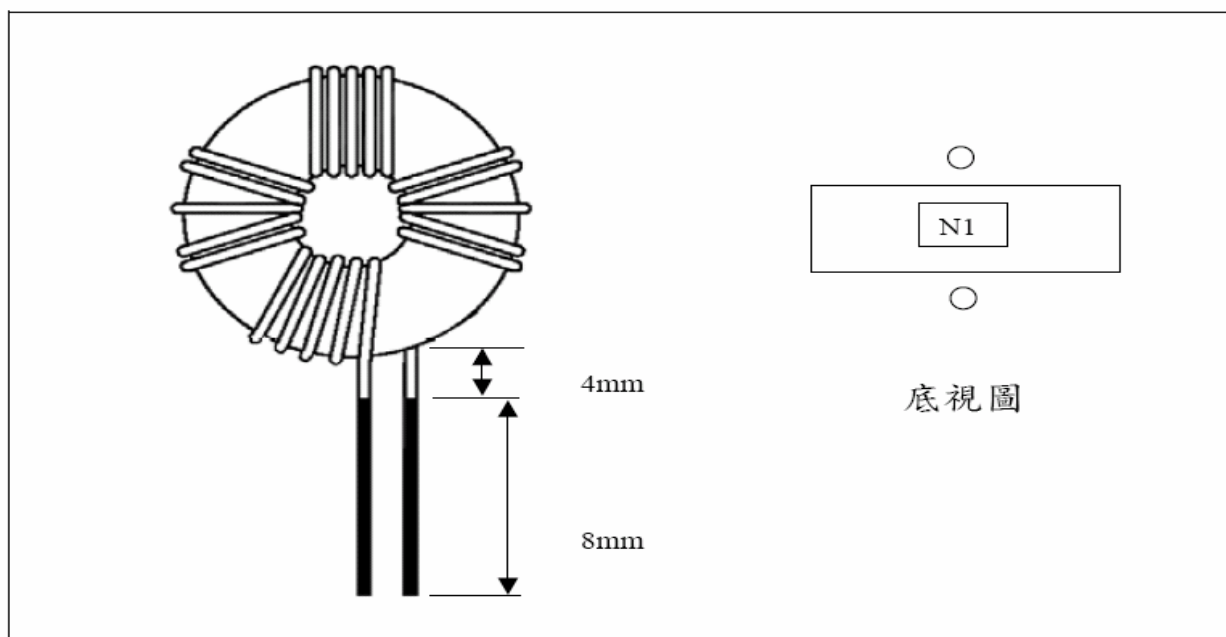
外型, 尺寸和電感器製造: 如下所述.

2 Mechanical Performance 機械性能:

Terminal strength: Each terminal of the transformer must be withstanding a pull 1.5Kg for 10 second, without loosening, breaking of other.

終端強度: 電感器每一個終端(pin)面必須能夠承受 1.5Kg 的推力 10 秒, 沒有脫落, 損壞.

3 Electrical:



Doc.Title	Transformer & Output Inductor	Instituted by	SE
Doc.Number	A0	Page Number	47/62

System General Corp.

Doc.Title	ATX-300W(L7)	Institute by	SE
Doc.Number	80Plus ATX-300W(L7)V1.0	Page Number	2/ 2 頁

4 Windings:

層 數 Winding	終 端 (pin) Terminal	銅線尺寸 Wire Gauge (mm)	繞線圈數 (T)	備註 Note
N1	1,2→3,4	1.0*2C	25.5	28uH 1V/1KHz

1,2 and 3,4 Exit twisted-pair Wire

5 Core

Toroids Core TR Type :

Powder 材質 (T80-26 YELLOW/WHITE)

OD=20.3mm ; ID=12.7mm ; HT=6.35mm

GENERAL MATERIAL PROPERTIES				
Material Mix No.	Reference Permeability	Material Density	Relative Cost	Color Code
	(μo)	(g/cm ³)		
-26	75	7	1	Yellow/White

6 Magnet Wire 漆包線:

Polyurethane Enamel Copper Wire

D.D(UEW) Magnet Wire or DD-NY(尼龍披覆) Magnet Wire

Enduranat Temperature ≥ 120°C

Pacific; UL E84081

聚氨基酯琺瑯銅線

太平洋; UL E84081(S)

Enduranat Temperature ≥ 120°C

7 Impregnation 涵浸:

Varnish 凡氣水 ; Ts-2414V(Tesh Chemical Co.)

Doc.Title	Transformer & Output Inductor	Instituted by	SE
Doc.Number	A0	Page Number	48/62

System General Corp.

Doc.Title	ATX-300W(L9)	Institute by	SE
Doc.Number	80Plus ATX-300W(L9)V1.0	Page Number	1/ 2 頁

Specification **電感器規格書**

Name : L9
Version :
Date : 2006/6/9
Designer : Canny

1 Surface, Structure 外觀, 機構:

1.1 Surface: damage, rusting, etc. are not permitted

外觀: 不允許損壞, 生鏽等.

1.2 The shape, dimension and marking of the transformer: as below mention

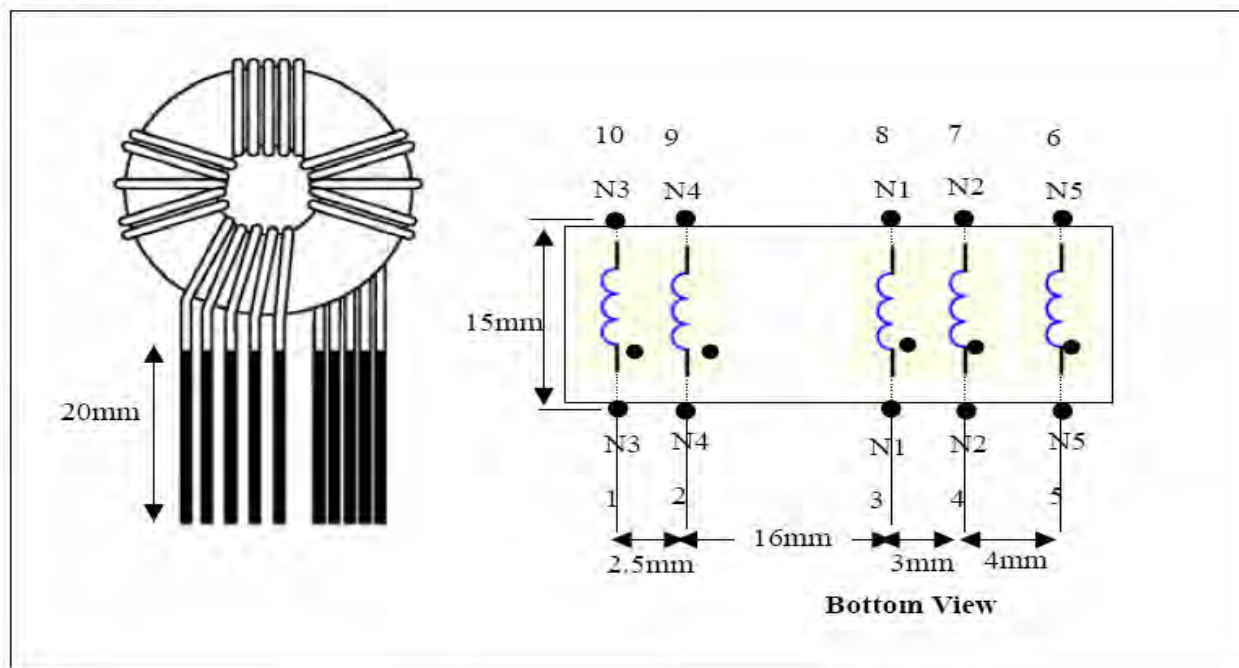
外型, 尺寸和電感器製造: 如下所述.

2 Mechanical Performance 機械性能:

Terminal strength: Each terminal of the transformer must be withstanding a pull 1.5Kg for 10 second, without loosening, breaking of other.

終端強度: 電感器每一個終端(pin)面必須能夠承受 1.5Kg 的推力 10 秒, 沒有脫落, 損壞.

3 Electrical:



Doc.Title	Transformer & Output Inductor	Instituted by	SE
Doc.Number	A0	Page Number	49/62

System General Corp.

Doc.Title	ATX-300W(L9)	Institute by	SE
Doc.Number	80Plus ATX-300W(L9)V1.0	Page Number	2/ 2 頁

4. Windings:

層 數 Winding	終 端 (pin) Terminal	銅 線 尺 寸 Wire Gauge (mm)	繞 線 圈 數 (T)	備 註 Note
N1	3→8	1.0	24.5	$\geq 40\mu\text{H}$, 1V/1KHz
N2	4→7	1.0	24.5	
N3	1→10	1.0	10.5	
N4	2→9	1.0	10.5	
N5	5→6	0.5	23.5	

Note:

1. N1,N2 and N3,N4 shunt winding.
2. N1,N2 use red enamel-insulated wire, N3,N4 use green enamel-insulated wire, N5 use golden enamel-insulated wire.

4 Core

Toroids Core TR Type :

Powder 材質:High Flux Core O.D.=1.06in AL=75nH

OPTIMAG MAGNETIC HF106060-2

MAGNETICS 58894

Or other High Flux Core

OD=1.06in ; ID=0.58in ; HT=0.44in

5 Magnet Wire 漆包線:

Polyurethane Enamel Copper Wire

D.D(U EW) Magnet Wire or DD-NY(尼龍披覆) Magnet Wire

Enduranat Temperature $\geq 120^{\circ}\text{C}$

Pacific; UL E84081

聚氨基酯琺瑯銅線

太平洋; UL E84081(S)

Enduranat Temperature $\geq 120^{\circ}\text{C}$

6 Impregnation 涵浸:

Varnish 凡氣水 ; Ts-2414V(Tesh Chemical Co.)

Doc.Title	Transformer & Output Inductor	Instituted by	SE
Doc.Number	A0	Page Number	50/62

System General Corp.

Doc.Title	ATX-300W(L4)	Institute by	SE
Doc.Number	80Plus ATX-300W(L4)V1.0	Page Number	1/ 2 頁

Specification **電感器規格書**

Name : L4
Version :
Date : 2006/3/9
Designer : Paul

1 Surface, Structure 外觀, 機構:

1.1 Surface: damage, rusting, etc. are not permitted

外觀: 不允許損壞, 生鏽等.

1.2 The shape, dimension and marking of the transformer: as below mention

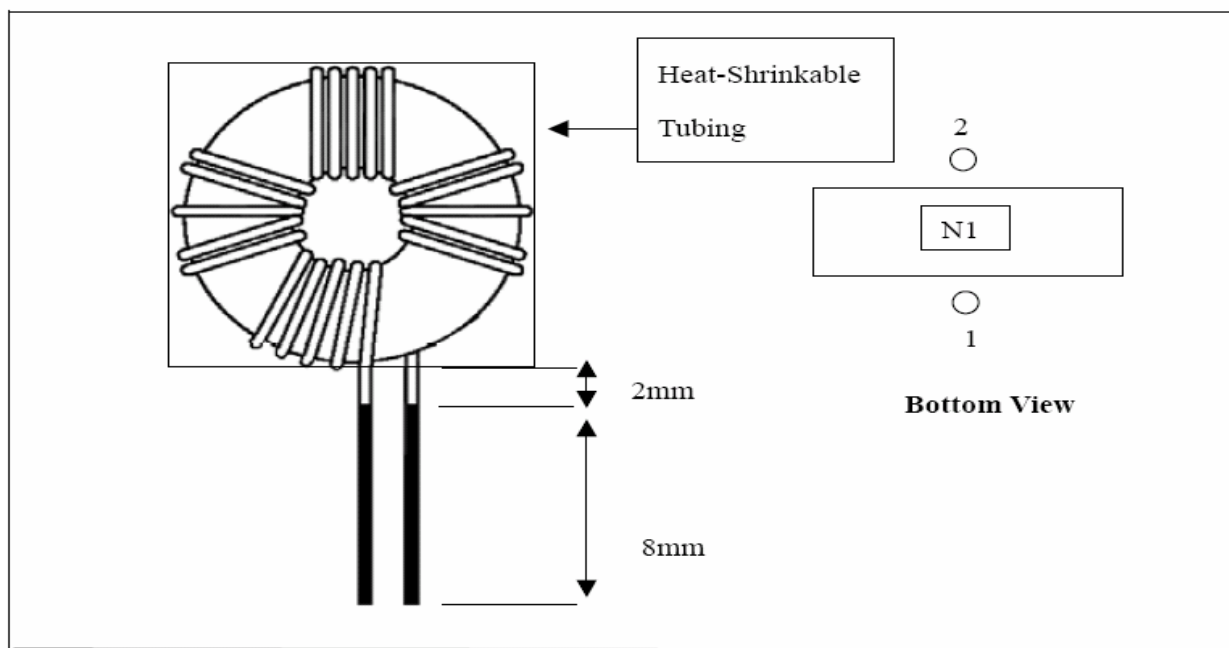
外型, 尺寸和電感器製造: 如下所述.

2 Mechanical Performance 機械性能:

Terminal strength: Each terminal of the transformer must be withstanding a pull 1.5Kg for 10 second , without loosening , breaking of other.

終端強度: 電感器每一個終端(pin)面必須能夠承受 1.5Kg 的推力 10 秒, 沒有脫落, 損壞.

3 Electrical:



Doc.Title	Transformer & Output Inductor	Instituted by	SE
Doc.Number	A0	Page Number	51/62

System General Corp.

Doc.Title	ATX-300W(L4)	Institute by	SE
Doc.Number	80Plus ATX-300W(L4)V1.0	Page Number	2/ 2 頁

4 Windings:

層 數 Winding	終 端 (pin) Terminal	銅線尺寸 Wire Gauge (mm)	繞線圈數 (T)	備註 Note
N1	1→2	0.8 ϕ *2	7.5	$\geq 1.3\text{mH}$ 1V/1KHz

Note:

- Exit twisted-pair Wire and reserve 8mm
- Please packing core with Heat-Shrinkable Tubing

5 Core

Toroids Core TR Type :

Amorphous cores(AMSA-12S-N)

OD=14mm ; ID=6.6mm ; HT=6.3mm

6 Magnet Wire 漆包線:

Polyurethane Enamel Copper Wire

D.D(UEW) Magnet Wire or DD-NY(尼龍披覆) Magnet Wire

Enduranat Temperature $\geq 120^{\circ}\text{C}$

Pacific; UL E84081

聚氨基醚漆銅線

太平洋; UL E84081(S)

Enduranat Temperature $\geq 120^{\circ}\text{C}$

7 Impregnation 涵浸:

Varnish 凡氣水 ; Ts-2414V(Tesh Chemical Co.)

Doc.Title	Transformer & Output Inductor	Instituted by	SE
Doc.Number	A0	Page Number	52/62

System General Corp.

Doc.Title	ATX-300W(L3)	Institute by	SE
Doc.Number	80Plus ATX-300W(L3)V1.0	Page Number	1 / 2 頁

Specification **電感器規格書**

Name : L3
Version :
Date : 2006/3/9
Designer : Paul

1 Surface, Structure 外觀, 機構:

1.1 Surface: damage, rusting, etc. are not permitted

外觀: 不允許損壞, 生鏽等.

1.2 The shape, dimension and marking of the transformer: as below mention

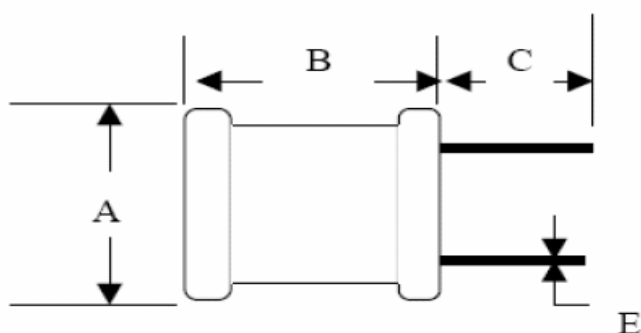
外型, 尺寸和電感器製造: 如下所述.

2 Mechanical Performance 機械性能:

Terminal strength: Each terminal of the transformer must be withstanding a pull 1.5Kg for 10 second, without loosening, breaking of other.

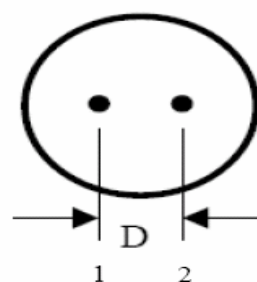
終端強度: 電感器每一個終端(pin)面必須能夠承受 1.5Kg 的推力 10 秒, 沒有脫落, 損壞.

3 Electrical:



UNIT : mm

A	8.0 max
B	12 max
C	10 min
D	3.0±0.5
E	φ0.65±0.05



Bottom View

Doc.Title	Transformer & Output Inductor	Instituted by	SE
Doc.Number	A0	Page Number	53/62

System General Corp.

Doc.Title	ATX-300W(L3)	Institute by	SE
Doc.Number	80Plus ATX-300W(L3)V1.0	Page Number	2/ 2 頁

4 Windings:

層 數 Winding	終 端 (pin) Terminal	銅線尺寸 Wire Gauge (mm)	繞線圈數 (T)	備 註 Note
N1	1 → 2	0.55	18	$\geq 8\mu\text{H}$, 1V/1KHz

5 Core

Ferrite core DRWW 6x10(6 ϕ *10mm)

6 Magnet Wire 漆包線:

Polyurethane Enamel Copper Wire

D.D(UEW) Magnet Wire or DD-NY(尼龍披覆) Magnet Wire

Enduranat Temperature $\geq 120^{\circ}\text{C}$

Pacific; UL E84081

聚氨基酯琺瑯銅線

太平洋; UL E84081(S)

Enduranat Temperature $\geq 120^{\circ}\text{C}$

7 Impregnation 涵浸:

Varnish 凡氣水 ; Ts-2414V(Tesh Chemical Co.)

Doc.Title	Transformer & Output Inductor	Instituted by	SE
Doc.Number	A0	Page Number	54/62

System General Corp.

Doc.Title	ATX-300W(L6)	Institute by	SE
Doc.Number	80Plus ATX-300W(L6)V1.0	Page Number	1/ 2 頁

Specification **電感器規格書**

Name : L6
Version :
Date : 2006/3/20
Designer : Paul

1 Surface, Structure 外觀, 機構:

1.1 Surface: damage, rusting, etc. are not permitted

外觀: 不允許損壞, 生鏽等。

1.2 The shape, dimension and marking of the transformer: as below mention

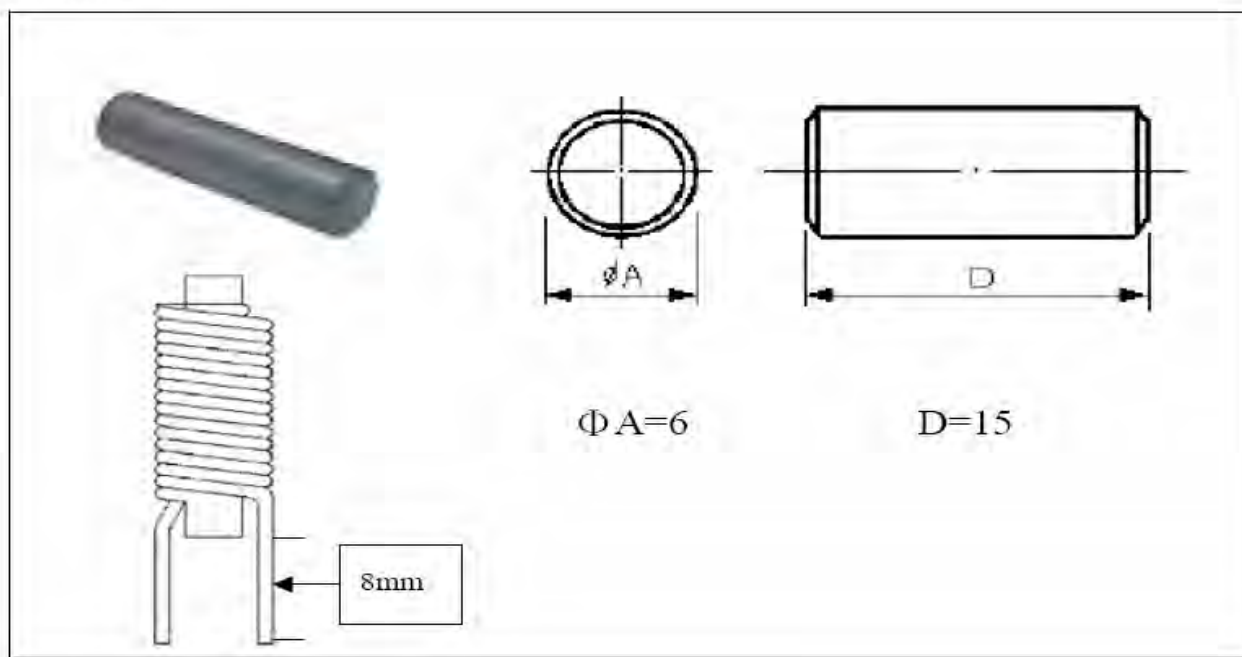
外型, 尺寸和電感器製造: 如下所述。

2 Mechanical Performance 機械性能:

Terminal strength: Each terminal of the transformer must be withstanding a pull 1.5Kg for 10 second, without loosening, breaking of other.

終端強度: 電感器每一個終端(pin)面必須能夠承受 1.5Kg 的推力 10 秒, 沒有脫落, 損壞。

3 Electrical:



Doc.Title	Transformer & Output Inductor	Instituted by	SE
Doc.Number	A0	Page Number	55/62

System General Corp.

Doc.Title	ATX-300W(L6)	Institute by	SE
Doc.Number	80Plus ATX-300W(L6)V1.0	Page Number	2/ 2 頁

4 Windings:

層 數 Winding	終 端 (pin) Terminal	銅線尺寸 Wire Gauge (mm)	繞線圈數 (T)	備 註 Note
N1	1 → 2	1.4	5.5	$\geq 1.7\mu\text{H}$, 1V/1KHz

5 Core

Rod core 6x15($6\phi * 15\text{mm}$)

6 Magnet Wire 漆包線:

Polyurethane Enamel Copper Wire

D.D(UEW) Magnet Wire or DD-NY(尼龍披覆) Magnet Wire

Enduranat Temperature $\geq 120^{\circ}\text{C}$

Pacific; UL E84081

聚氮酯琺瑯銅線

太平洋; UL E84081(S)

Enduranat Temperature $\geq 120^{\circ}\text{C}$

7 Impregnation 涵浸:

Varnish 凡氣水 ; Ts-2414V(Tesh Chemical Co.)

Doc.Title	Transformer & Output Inductor	Instituted by	SE
Doc.Number	A0	Page Number	56/62

System General Corp.

Doc.Title	ATX-300W(L5)	Institute by	SE
Doc.Number	80Plus ATX-300W(L5)V1.0	Page Number	1/ 2 頁

Specification **電感器規格書**

Name : L5
Version :
Date : 2006/3/20
Designer : Paul

1 Surface, Structure 外觀, 機構:

1.1 Surface: damage, rusting, etc. are not permitted

外觀: 不允許損壞, 生鏽等.

1.2 The shape, dimension and marking of the transformer: as below mention

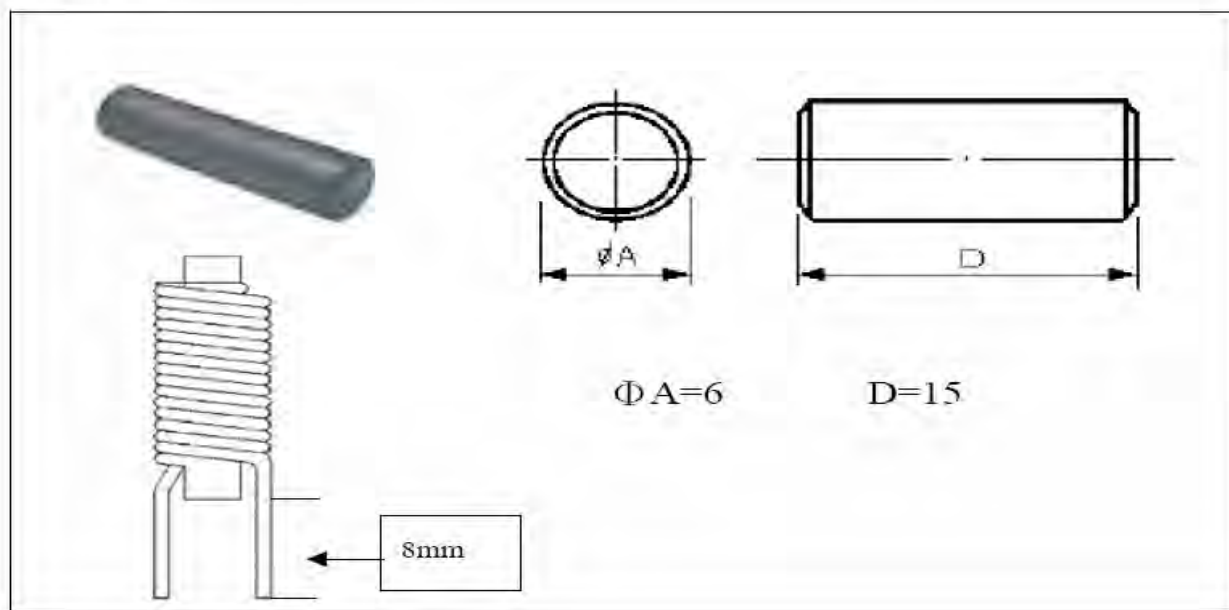
外型, 尺寸和電感器製造: 如下所述.

2 Mechanical Performance 機械性能:

Terminal strength: Each terminal of the transformer must be withstanding a pull 1.5Kg for 10 second, without loosening, breaking of other.

終端強度: 電感器每一個終端(pin)面必須能夠承受 1.5Kg 的推力 10 秒, 沒有脫落, 損壞.

3 Electrical:



Doc.Title	Transformer & Output Inductor	Instituted by	SE
Doc.Number	A0	Page Number	57/62

System General Corp.

Doc.Title	ATX-300W(L5)	Institute by	SE
Doc.Number	80Plus ATX-300W(L5)V1.0	Page Number	2/ 2 頁

4 Windings:

層 數 Winding	終 端 (pin) Terminal	銅線尺寸 Wire Gauge (mm)	繞線圈數 (T)	備註 Note
N1	1→2	1.4	4.5	$\geq 1.5U_h$, 1V/1KHz

5 Core

Rod core 6x15(6 ϕ *15mm)

6 Magnet Wire 漆包線:

Polyurethane Enamel Copper Wire

D.D(UEW) Magnet Wire or DD-NY(尼龍披覆) Magnet Wire

Enduranat Temperature $\geq 120^{\circ}\text{C}$

Pacific; UL E84081

聚氨基酯琺瑯銅線

太平洋; UL E84081(S)

Enduranat Temperature $\geq 120^{\circ}\text{C}$

7 Impregnation 涵浸:

Varnish 凡氣水 ; Ts-2414V(Tesh Chemical Co.)

Doc.Title	Transformer & Output Inductor	Instituted by	SE
Doc.Number	A0	Page Number	58/62

System General Corp.

Doc.Title	ATX-300W(L8)	Institute by	SE
Doc.Number	80Plus ATX-300W(L8)V1.0	Page Number	1/ 2 頁

Specification **電感器規格書**

Name : L8
Version :
Date : 2006/3/20
Designer : Paul

1 Surface, Structure 外觀, 機構:

1.1 Surface: damage, rusting, etc. are not permitted

外觀: 不允許損壞, 生鏽等.

1.2 The shape, dimension and marking of the transformer: as below mention

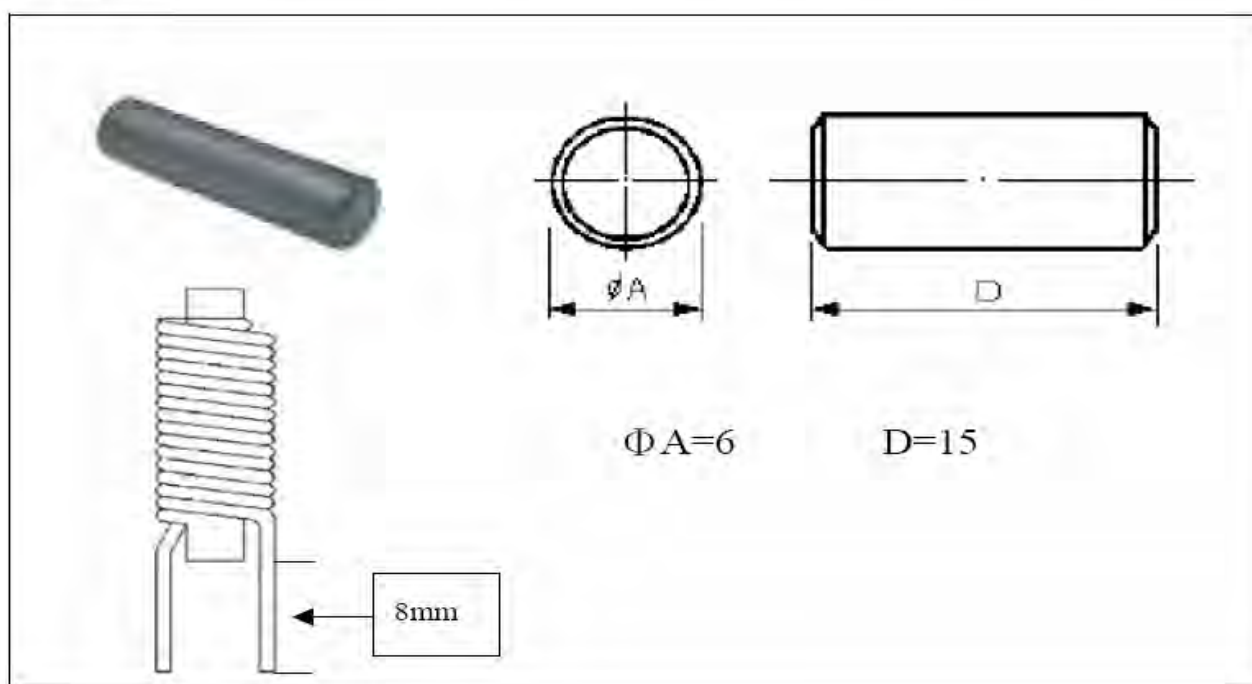
外型, 尺寸和電感器製造: 如下所述.

2 Mechanical Performance 機械性能:

Terminal strength: Each terminal of the transformer must be withstanding a pull 1.5Kg for 10 second, without loosening, breaking of other.

終端強度: 電感器每一個終端(pin)面必須能夠承受 1.5Kg 的推力 10 秒, 沒有脫落, 損壞.

3 Electrical:



Doc.Title	Transformer & Output Inductor	Instituted by	SE
Doc.Number	A0	Page Number	59/62

System General Corp.

Doc.Title	ATX-300W(L8)	Institute by	SE
Doc.Number	80Plus ATX-300W(L8)V1.0	Page Number	2/ 2 頁

4 Windings:

層 數 Winding	終 端 (pin) Terminal	銅線尺寸 Wire Gauge (mm)	繞線圈數 (T)	備 註 Note
N1	1→2	1.4	7.5	$\geq 2\mu\text{H}$, 1V/1KHz

5 Core

Rod core 6x15(6 ϕ *15mm)

6 Magnet Wire 漆包線:

Polyurethane Enamel Copper Wire

D.D(UEW) Magnet Wire or DD-NY(尼龍披覆) Magnet Wire

Enduranat Temperature $\geq 120^{\circ}\text{C}$

Pacific; UL E84081

聚氮酯琺瑯銅線

太平洋; UL E84081(S)

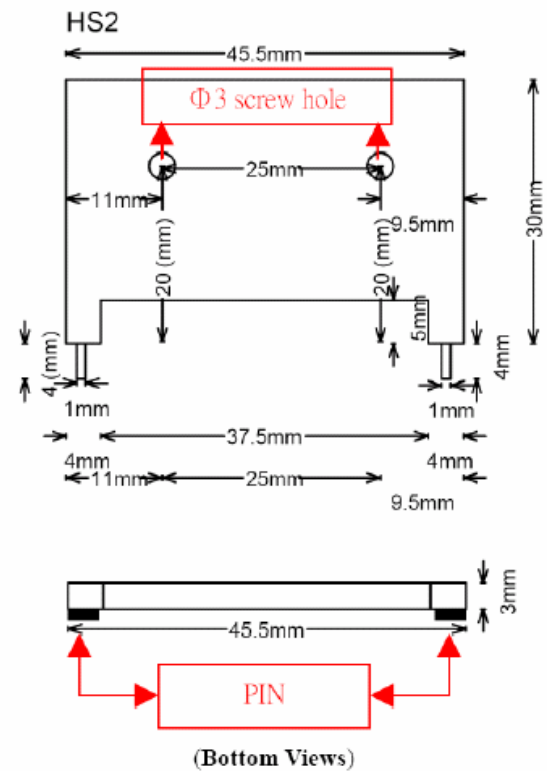
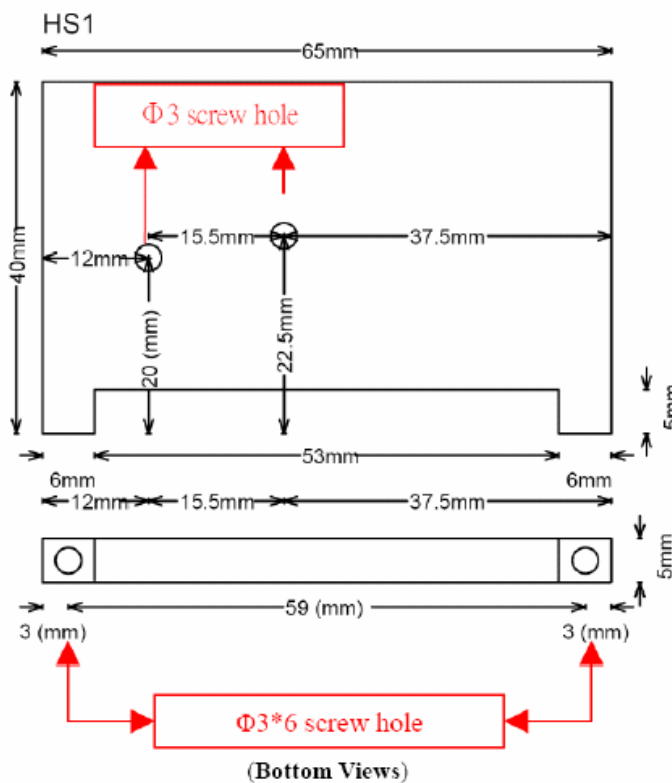
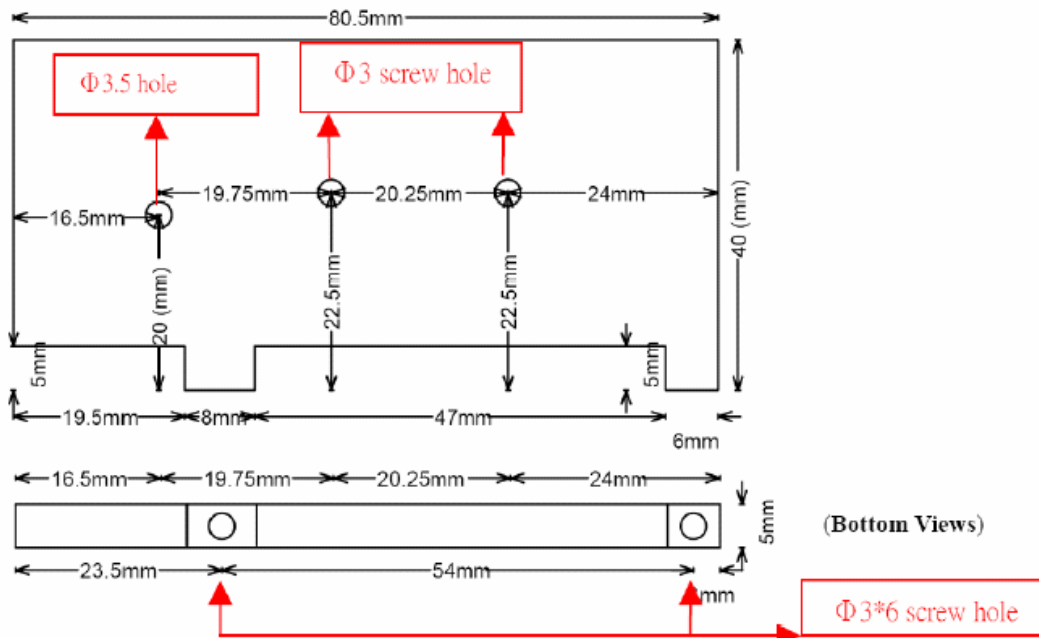
Enduranat Temperature $\geq 120^{\circ}\text{C}$

7 Impregnation 涵浸:

Varnish 凡氣水 ; Ts-2414V(Tesh Chemical Co.)

Doc.Title	Heat sink Structure Drawing	Instituted by	SE
Doc.Number	A0	Page Number	60/62

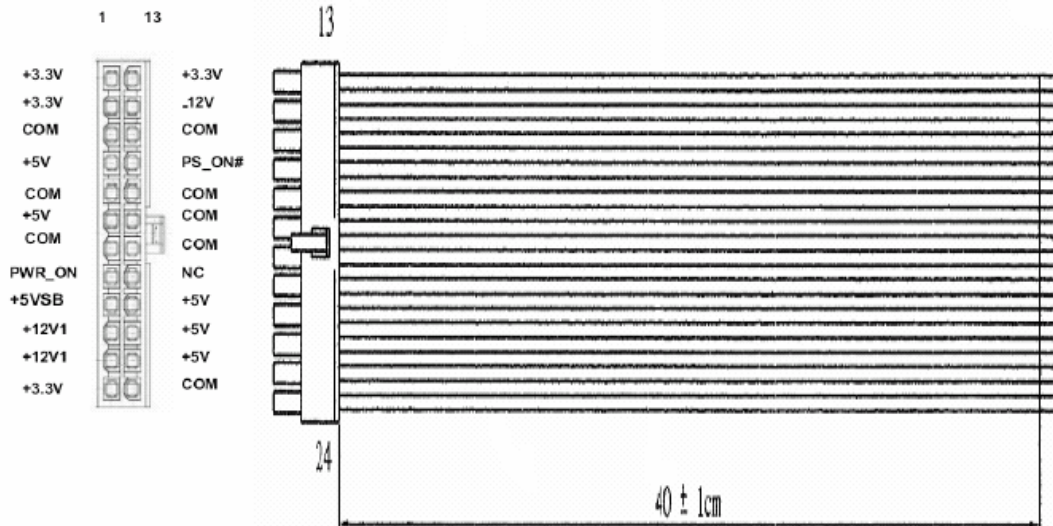
HS3



Doc.Title	Dc Connectors Approved Data	Instituted by	SE
Doc.Number	A0	Page Number	61/62

Main Power Connector

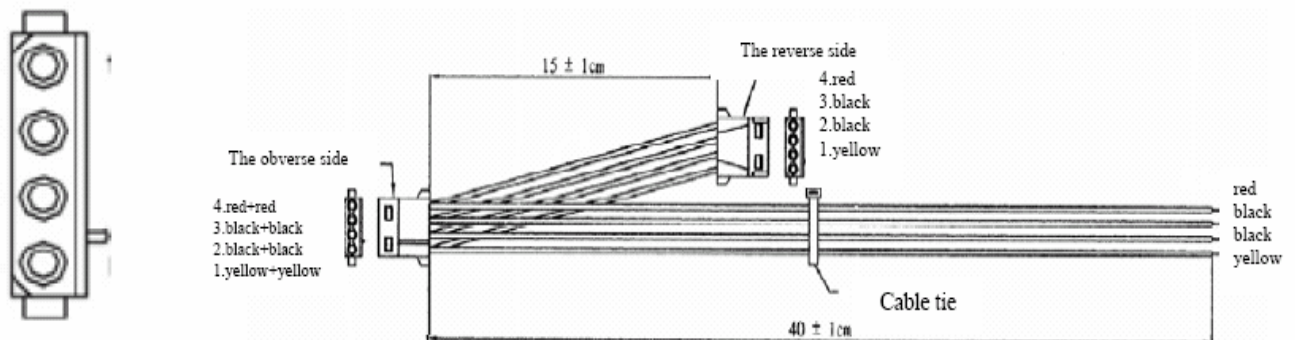
1 Orange	13 Orange + Brown
2 Orange	14 Blue
3 Black	15 Black
4 Red	16 Green
5 Black	17 Black
6 Red	18 Black
7 Black	19 Black
8 Gray	20 N/C
9 Purple	21 Red
10 Yellow	22 Red
11 Yellow	23 Red
12 Orange	24 Black



NOTE :

1. 13PIN use UL1007 #18 Orange and UL1007 #22 Brown
2. 9PIN use UL1007 #18
3. 8PIN and 16PIN use UL1007 #22
4. 9PIN and 14PIN use UL1007 #18
5. Other PIN use UL1007 #16
6. Please use cable tie on the wire

Peripheral Power Connector1

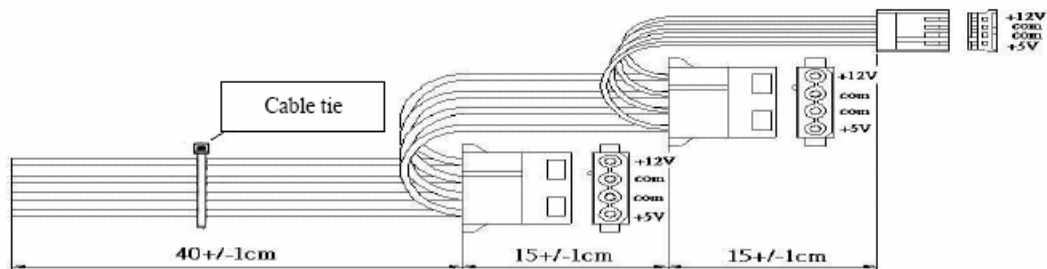


NOTE :

1. Each PIN use UL1007 #18
2. Use UL1007 #18
3. Please use cable tie on the wire

Doc.Title	Dc Connectors Approved Data	Instituted by	SE
Doc.Number	A0	Page Number	62/62

Peripheral Power Connector2

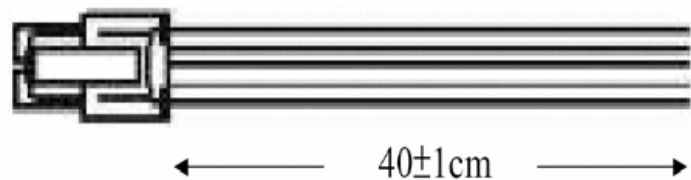


NOTE :

1. Each PIN use UL1007 #18
2. Use UL1007 #18
4. Please use cable tie on the wire

12V Power Connector

Pin 1		Pin 3
Black	Pin 1	Yellow/Black Stripe
Pin 2	COM	Pin 4
Black	COM	Yellow/Black Stripe



NOTE :

1. Use UL1007 #18
5. Please use cable tie on the wire