

23 AUG 2002

# DPS-4005PFC

## FILE OF PROGRAMMING SWITCHING POWER SUPPLY

APPLICANT: NINGBO ZHONGCE ELECTRONICS CO.,LTD

MANUFACTURER: NINGBO ZHONGCE ELECTRONICS CO.,LTD

ISSUED: \_\_\_\_\_ DATE \_\_\_\_\_

APPROVED: \_\_\_\_\_ DATE \_\_\_\_\_

TOTAL IN 80 PAGES

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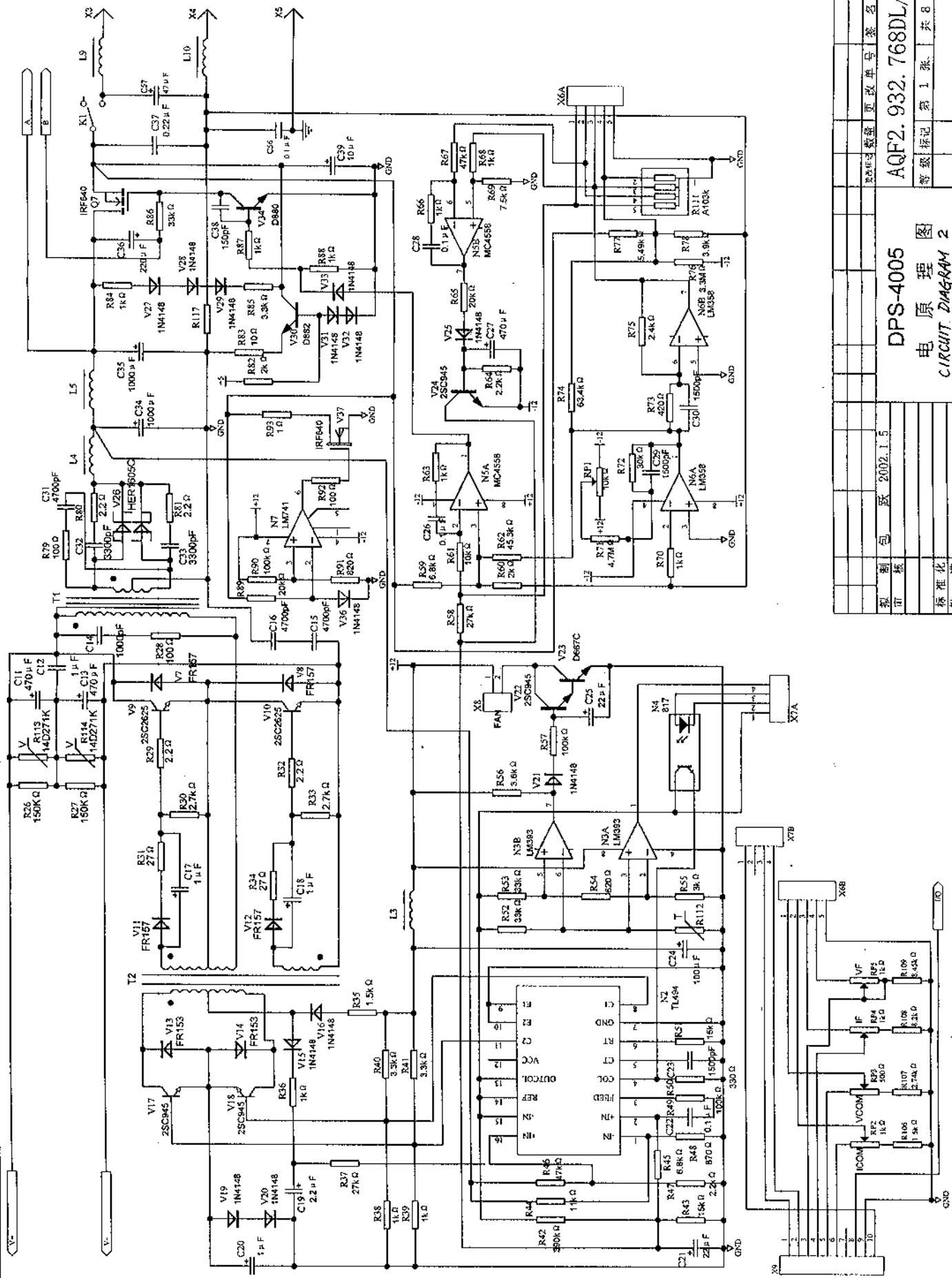




## COMPONENT LIST

Ref	P/N	Title	Qty	Remarks	Mod.
N1		IC LX15621	1		
V1		TRANSISTOR KBL08 4A/800V	1		
V2		TRANSISTOR HER107	1		
V3		TRANSISTOR BS62-5.1B	1		
V4		TRANSISTOR IN4148	1		
V5		TRANSISTOR IRFB9N65A	1		
V6		TRANSISTOR DYM26C	1		
R1		RESISTOR RJ14-0.25-1M $\Omega$	1		
R2		RESISTOR RJ13-1/6-1M $\Omega$	1		
R3		RESISTOR RJ13-1/6-1M $\Omega$	1		
R4		RESISTOR RJ13-1/6-1M $\Omega$	1		
R5		RESISTOR RJ13-1/6-1M $\Omega$	1		
R6		RESISTOR RJ13-1/6-12k $\Omega$	1		
R7		RESISTOR RJ13-1/6-51k $\Omega$	1		
R8		RESISTOR RJ13-1/6-51k $\Omega$	1		
R9		RESISTOR RJ13-1/6-51k $\Omega$	1		
R10		RESISTOR RJ13-1/6-51k $\Omega$	1		
R11		RESISTOR RJ13-1/6-51k $\Omega$	1		
R12		RESISTOR RJ15-0.5-10 $\Omega$	1		
R13		RESISTOR RJ13-1/6-100k $\Omega$	1		
R14		RESISTOR RJ13-1/6-56 $\Omega$	1		
R15		RESISTOR RJ13-1/6-51k $\Omega$	1		
R16		RESISTOR RJ20-1-0.2 $\Omega$	1		
R17		RESISTOR RJ13-1/6-330 $\Omega$	1		
R18		RESISTOR RJ13-1/6-100k $\Omega$	1		
R19		RESISTOR RJ15-0.5-100 $\Omega$	1		
R20		RESISTOR RJ13-F-1/6-210k $\Omega$	1		
R21		RESISTOR RJ13-F-1/6-210k $\Omega$	1		
R22		RESISTOR RJ13-F-1/6-210k $\Omega$	1		
R23		RESISTOR RJ13-F-1/6-210k $\Omega$	1		
R24		RESISTOR RJ13-F-1/6-210K $\Omega$	1		
R25		RESISTOR RJ13-F-1/6-6.49k $\Omega$	1		
R115		RESISTOR NTC5D-11	1		
R116		RESISTOR 471kD07	1		
C1		CAPACITOR MPX-275VAC-0.22 $\mu$ F	1	18X15X8	
C2		CAPACITOR MPX-275VAC-0.22 $\mu$ F	1		
C3		CAPACITOR CBB-400V-0.47 $\mu$ F	1		
C4		CAPACITOR TK-25V-22 $\mu$ F	1	105 $^{\circ}$ C	
C5		CAPACITOR $\mu$ AD10F104ZT	1		

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图号	数量	更改单号	签名日期
制板	2002.11.5		
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电原理图  
CIRCUIT DIAGRAM 2

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底图总号	
日期	
姓名	

## COMPONENT LIST

Ref	P/N	Title	Qty	Remarks	Mod.
N2		IC TL494	1		
N3		IC LM393N	1		
N4		IC PC817	1		
N5		IC CD4558	1		
N6		IC HA17358	1		
N7		IC LM741	1		
V7		TRANSISTOR FR157	1		
V8		TRANSISTOR 2SC3552 15< $\beta$ <30	1		
V9		TRANSISTOR 2SC3552 15< $\beta$ <30	1		
V10		TRANSISTOR FR157	1		
V11		TRANSISTOR FR157	1		
V12		TRANSISTOR FR154	1		
V13		TRANSISTOR FR154	1		
V14		TRANSISTOR IN4148	1		
V15		TRANSISTOR IN4148	1		
V16		TRANSISTOR 2SC945P	1		
V17		TRANSISTOR 2SC945P	1		
V18		TRANSISTOR IN4148	1		
V19		TRANSISTOR IN4148	1		
V20		TRANSISTOR IN4148	1		
V21		TRANSISTOR IN4148	1		
V22		TRANSISTOR 2SC945P	1		
V23		TRANSISTOR D667C	1		
V24		TRANSISTOR 2SC945P	1		
V25		TRANSISTOR IN4148	1		
V26		TRANSISTOR HER1605C	1		
V27		TRANSISTOR IN4148	1		
V28		TRANSISTOR IN4148	1		
V29		TRANSISTOR IN4148	1		
V30		TRANSISTOR D882	1		
V31		TRANSISTOR IN4148	1		
V32		TRANSISTOR IN4148	1		
V33		TRANSISTOR IN4148	1		
V34		TRANSISTOR IRF640	1		
V35		TRANSISTOR 3DG313	1		
V36		TRANSISTOR IN4148	1		
V37		TRANSISTOR IRF640	1		
R26		RESISTOR RJ14-0.25-150k $\Omega$	1		
R27		RESISTOR RJ14-0.25-150k $\Omega$	1		



## COMPONENT LIST

Ref	P/N	Title	Qty	Remarks	Mod.
R28		RESISTOR RJ20-2-100 $\Omega$	1		
R29		RESISTOR RJ14-0.25-2.2 $\Omega$	1		
R30		RESISTOR RJ14-0.25-2.7k $\Omega$	1		
R31		RESISTOR RJ14-0.25-27 $\Omega$	1		
R32		RESISTOR RJ14-0.25-2.2 $\Omega$	1		
R33		RESISTOR RJ14-0.25-2.7k $\Omega$	1		
R34		RESISTOR RJ14-0.25-27 $\Omega$	1		
R35		RESISTOR RJ13-1/6-1.5k $\Omega$	1		
R35		RESISTOR RJ13-1/6-1k $\Omega$	1		
R37		RESISTOR RJ13-1/6-27k $\Omega$	1		
R38		RESISTOR RJ13-1/6-1k $\Omega$	1		
R39		RESISTOR RJ13-1/6-3.3k $\Omega$	1		
R40		RESISTOR RJ13-1/6-3.3k $\Omega$	1		
R41		RESISTOR RJ13-1/6-1k $\Omega$	1		
R42		RESISTOR RJ13-F-0.25-390k $\Omega$	1		
R43		RESISTOR RJ13-1/6-15k $\Omega$	1		
R44		RESISTOR RJ13-1/6-11k $\Omega$	1		
R45		RESISTOR RJ13-F-1/6-6.8k $\Omega$	1		
R46		RESISTOR RJ13-1/6-47k $\Omega$	1		
R47		RESISTOR RJ13-1/6-2.2k $\Omega$	1		
R48		RESISTOR RJ13-F-1/6-870 $\Omega$	1		
R49		RESISTOR RJ13-1/6-100k $\Omega$	1		
R50		RESISTOR RJ13-1/6-330 $\Omega$	1		
R51		RESISTOR RJ13-F-1/6-15k $\Omega$	1		
R52		RESISTOR RJ13-F-1/6-33k $\Omega$	1		
R53		RESISTOR RJ13-F-1/6-33k $\Omega$	1		
R54		RESISTOR RJ13-F-1/6-1.5k $\Omega$	1		
R55		RESISTOR RJ13-F-1/6-3.9k $\Omega$	1		
R56		RESISTOR RJ13-F-1/6-3.6k $\Omega$	1		
R57		RESISTOR RJ13-F-1/6-100k $\Omega$	1		
R58		RESISTOR RJ13-1/6-27k $\Omega$	1		
R59		RESISTOR RJ13-F-1/6-6.8k $\Omega$	1		
R60		RESISTOR RJ13-1/6-2k $\Omega$	1		
R61		RESISTOR RJ13-1/6-10k $\Omega$	1		
R62		RESISTOR RJ13-F-1/6-45.3k $\Omega$	1		
R63		RESISTOR RJ13-1/6-1k $\Omega$	1		
R64		RESISTOR RJ13-1/6-2.2k $\Omega$	1		
R65		RESISTOR RJ13-1/6-20k $\Omega$	1		
R66		RESISTOR RJ13-1/6-1k $\Omega$	1		

## COMPONENT LIST

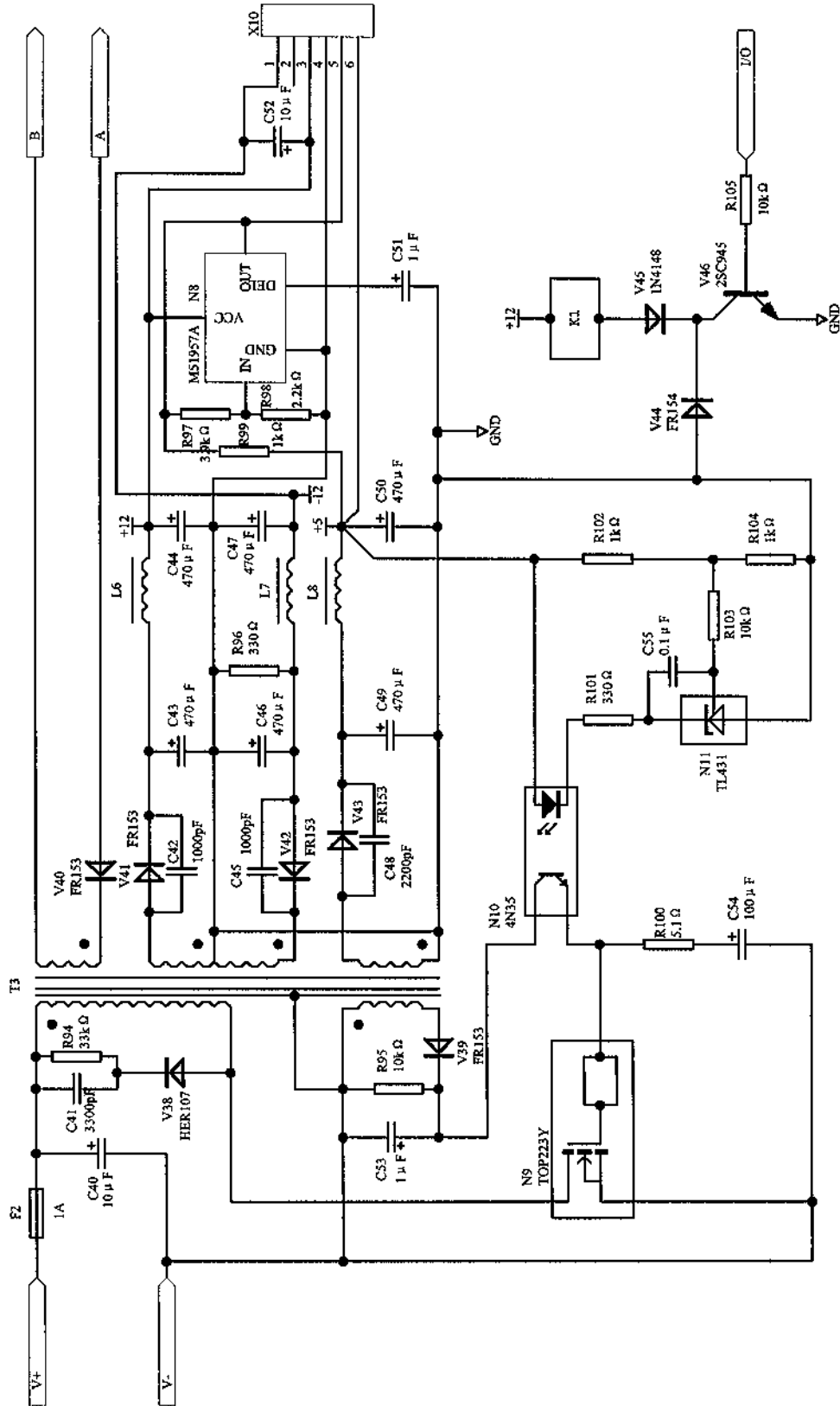
Ref	P/N	Title	Qty	Remarks	Mod.
R67		RESISTOR RJ13-1/6-47k $\Omega$	1		
R68		RESISTOR RJ13-1/6-1k $\Omega$	1		
R69		RESISTOR RJ13-F-1/6-7.5k $\Omega$	1		
R70		RESISTOR RJ13-1/6-1k $\Omega$	1		
R71		RESISTOR RJ13-1/6-4.7M $\Omega$	1		
R72		RESISTOR RJ13-1/6-30k $\Omega$	1		
R73		RESISTOR RJ13-F-1/6-470 $\Omega$	1		
R74		RESISTOR RJ13-F-1/6-63.4k $\Omega$	1		
R75		RESISTOR RJ13-F-1/6-1.4k $\Omega$	1		
R76		RESISTOR RJ13-1/6-3.3M $\Omega$	1		
R77		RESISTOR RJ13-F-1/6-5.49k $\Omega$	1		
R78		RESISTOR RJ13-1/6-3.9k $\Omega$	1		
R79		RESISTOR RJ20-2-100 $\Omega$	1		
R80		RESISTOR RJ14-0.25-2.2 $\Omega$	1		
R81		RESISTOR RJ14-0.25-2.2 $\Omega$	1		
R82		RESISTOR RT13-2k $\Omega$	1		
R83		RESISTOR RT14-10 $\Omega$	1		
R84		RESISTOR RT13-1k $\Omega$	1		
R85		RESISTOR RJ13-F-3.3k $\Omega$	1		
R86		RESISTOR RJ15-0.5-33k $\Omega$	1		
R87		RESISTOR RJ13-1/6-1k $\Omega$	1		
R88		RESISTOR RJ13-1/6-1k $\Omega$	1		
R89		RESISTOR RJ13-1/6-20k $\Omega$	1		
R90		RESISTOR RJ13-1/6-100k $\Omega$	1		
R91		RESISTOR RJ13-1/6-820 $\Omega$	1		
R92		RESISTOR RJ13-1/6-100 $\Omega$	1		
R93		RESISTOR RJ20-1-1 $\Omega$	1		
R106		RESISTOR RJ14-F-0.25-7.5k $\Omega$	1		
R107		RESISTOR RJ14-F-0.25-2.74k $\Omega$	1		
R108		RESISTOR RJ14-F-0.25-8.2k $\Omega$	1		
R109		RESISTOR RJ14-F-0.25-8.2k $\Omega$	1		
R110		RESISTOR RJ15-0.5-51 $\Omega$	1		
R111		RESISTOR RAH-4R-10k $\Omega$	1		
R112		THERMAL SENSOR WTSAB103F74220	1		
R113		RESISTOR 14D271k	1		
R114		RESISTOR 14D271k	1		
RP1		POTENTIOMETER 3296W-10k $\Omega$	1		
RP2		POTENTIOMETER 3296W-1k $\Omega$	1		
RP3		POTENTIOMETER 3296W-500 $\Omega$	1		

## COMPONENT LIST

Ref	P/N	Title	Qty	Remarks	Mod.
RP4		POTENTIOMETER 3296W-1k $\Omega$	1		
RP5		POTENTIOMETER 3296W-1k $\Omega$	1		
C11		CAPACITOR CD11-250-330 $\mu$ F22x30	1	105°C	
C12		CAPACITOR CBB-250V-1 $\mu$ F	1		
C13		CAPACITOR CD11-250-330 $\mu$ F22x30	1	105°C	
C14		CAPACITOR CT81-1Kv-1000pF	1		
C15		CAPACITOR PY472M-250VAC	1		
C16		CAPACITOR PY472M-250VAC	1		
C17		CAPACITOR TK-50V-1 $\mu$ F	1	105°C	
C18		CAPACITOR TK-50V-1 $\mu$ F	1	105°C	
C19		CAPACITOR TK-50V-2.2 $\mu$ F	1	105°C	
C20		CAPACITOR TK-50V-1 $\mu$ F	1	105°C	
C21		CAPACITOR TK-50V-10 $\mu$ F	1	105°C	
C22		CAPACITOR $\mu$ AD10F104ZT	1		
C23		CAPACITOR CL223X-1500pF	1		
C24		CAPACITOR TK-25V-100 $\mu$ F	1	105°C	
C25		CAPACITOR TK-25V-22 $\mu$ F	1	105°C	
C26		CAPACITOR $\mu$ AD10F104ZT	1		
C27		CAPACITOR TK-16V-470 $\mu$ F	1	105°C	
C28		CAPACITOR CL11-63-0.022 $\mu$ F	1		
C29		CAPACITOR CL11-63-1500pF	1		
C30		CAPACITOR CL11-63-1500pF	1		
C31		CAPACITOR CT81-1kV-4700pF	1		
C32		CAPACITOR CT81-1kV-3300pF	1		
C33		CAPACITOR CT81-1kV-3300pF	1		
C34		CAPACITOR WG-50V-1000 $\mu$ F	1	105°C	
C35		CAPACITOR WG-50V-1000 $\mu$ F	1	105°C	
C36		CAPACITOR TK-25V-220 $\mu$ F	1	105°C	
C37		CAPACITOR CL21X-100-0.22 $\mu$ F	1		
C38		CAPACITOR CC1-160-150pF	1		
C39		CAPACITOR TK-200V-10 $\mu$ F	1	105°C	
C56		CAPACITOR MPX-275VAC-0.1 $\mu$ F	1		
C57		CAPACITOR CD11-50-47 $\mu$ F	1		
C58		CAPACITOR CL11-160-0.01 $\mu$ F	1		
C59		CAPACITOR CC1-160-100pF	1		
C60		CAPACITOR $\mu$ AD10F104ZT	1		
L3	AQF4.773.758	INDUCTOR	1		
L4	AQF4.773.759	INDUCTOR	1		
L5	AQF4.773.760	INDUCTOR	1		



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电原理图  
CIRCUIT DIAGRAM 3

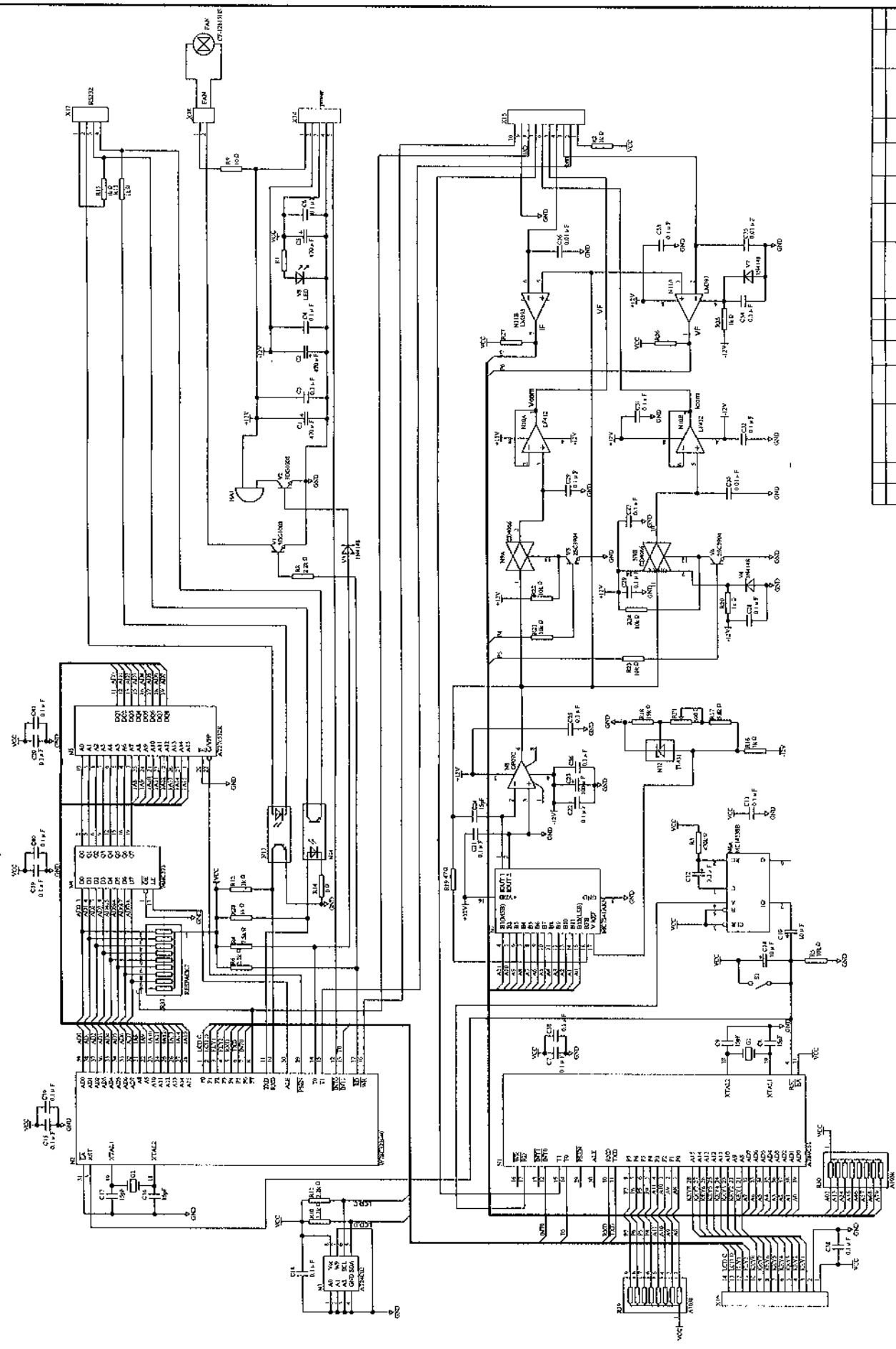
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描图：贾鲁秀

## COMPONENT LIST

Ref	P/N	Title	Qty	Remarks	Mod.
N8		IC M51957A	1		
N9		IC TOP223Y	1		
N10		IC 4N35	1		
N11		IC TL431	1		
V38		TRANSISTOR HER107	1		
V39		TRANSISTOR FR154	1		
V40		TRANSISTOR FR154	1		
V41		TRANSISTOR FR154	1		
V42		TRANSISTOR FR154	1		
V43		TRANSISTOR FR154	1		
V44		TRANSISTOR FR154	1		
V45		TRANSISTOR IN4148	1		
V46		TRANSISTOR 2SC945P	1		
R94		RESISTOR RJ20-2-33k $\Omega$	1		
R95		RESISTOR RT13-10k $\Omega$	1		
R96		RESISTOR RT13-330 $\Omega$	1		
R97		RESISTOR RT13-3.9k $\Omega$	1		
R98		RESISTOR RT13-2.2k $\Omega$	1		
R99		RESISTOR RJ13-F-1k $\Omega$	1		
R100		RESISTOR RJ13-1/6-5.1 $\Omega$	1		
R101		RESISTOR RJ13-F-330 $\Omega$	1		
R102		RESISTOR RJ13-F-1k $\Omega$	1		
R103		RESISTOR RJ13-F-10k $\Omega$	1		
R104		RESISTOR RJ13-F-1k $\Omega$	1		
R105		RESISTOR RT13-10k $\Omega$	1		
R117	AQF7.714.728	RESISTOR BY SELF-CONTROL	1		
C40		CAPACITOR SK-450V-10 $\mu$ F	1	105°C	
C41		CAPACITOR CT81-1kV-3300pF	1		
C42		CAPACITOR CT81-1kV-1000pF	1		
C43		CAPACITOR TK-16V-470 $\mu$ F	1	105°C	
C44		CAPACITOR TK-16V-470 $\mu$ F	1	105°C	
C45		CAPACITOR CT81-1kV-1000pF	1		
C46		CAPACITOR TK-16V-470 $\mu$ F	1	105°C	
C47		CAPACITOR TK-16V-470 $\mu$ F	1	105°C	
C48		CAPACITOR PY222M-250V-220pF	1		
C49		CAPACITOR TK-16V-470 $\mu$ F	1	105°C	
C50		CAPACITOR TK-16V-470 $\mu$ F	1	105°C	
C51		CAPACITOR TK-50V-1 $\mu$ F	1	105°C	
C52		CAPACITOR TK-50V-10 $\mu$ F (I)5X11	1	105°C	





图号	2002.1.5
日期	2002.1.5
设计	
审核	
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日期	
图名	电源原理图
图号	AQF2.932.768D1/4
张数	共6张
第1张	
张数	1

DPS-4005  
电源原理图  
CIRCUIT DIAGRAM 4



## COMPONENT LIST

Ref	P/N	Title	Qty	Remarks	Mod.
N1		IC AT89C51	1		
N2		IC W78C32B-40	1		
N3		IC AT24C02	1		
N4		IC 74HC373	1		
N5		IC AT27C512R	1		
N6		IC MC14538B	1		
N7		IC AD7541A	1		
N8		IC OP07C	1		
N9		IC CD4066	1		
N10		IC LF412CN	1		
N11		IC LM393	1		
N12		IC TL431	1		
N13		IC PC817	1		
N14		IC PC817	1		
V1		TRANSISTOR 3DG1008 $\beta > 300$	1		
V2		TRANSISTOR 3DG1008 $\beta > 300$	1		
V3		TRANSISTOR IN4148	1		
V4		TRANSISTOR IN4148	1		
V5		TRANSISTOR KN3904	1		
V6		TRANSISTOR KN3904	1		
V7		TRANSISTOR IN4148	1		
V8		TRANSISTOR	0		
G1		CRYSTAL OSCILLATOR JA8 12MHz	1		
G2		CRYSTAL OSCILLATOR JA8 11.059MHz	1		
R1		RESISTOR	0		
R2		RESISTOR RJ14-0.25-1k $\Omega$	1		
R3		RESISTOR RJ14-0.25-470k $\Omega$	1		
R4		RESISTOR RJ14-0.25-7.5k $\Omega$	1		
R5		RESISTOR RJ14-0.25-10k $\Omega$	1		
R6		RESISTOR RJ14-0.25-2.2k $\Omega$	1		
R8		RESISTOR RJ14-0.25-2.2k $\Omega$	1		
R9		RESISTOR RJ14-0.25-10 $\Omega$	1		
R10		RESISTOR RJ14-0.25-2.2k $\Omega$	1		
R11		RESISTOR RJ14-0.25-2.2k $\Omega$	1		
R12		RESISTOR RJ14-0.25-1k $\Omega$	1		
R13		RESISTOR RJ14-0.25-1k $\Omega$	1		
R14		RESISTOR RJ14-0.25-0 $\Omega$	1		
R15		RESISTOR RJ14-0.25-1k $\Omega$	1		
R16		RESISTOR RJ14-0.25-1k $\Omega$	1		

## COMPONENT LIST

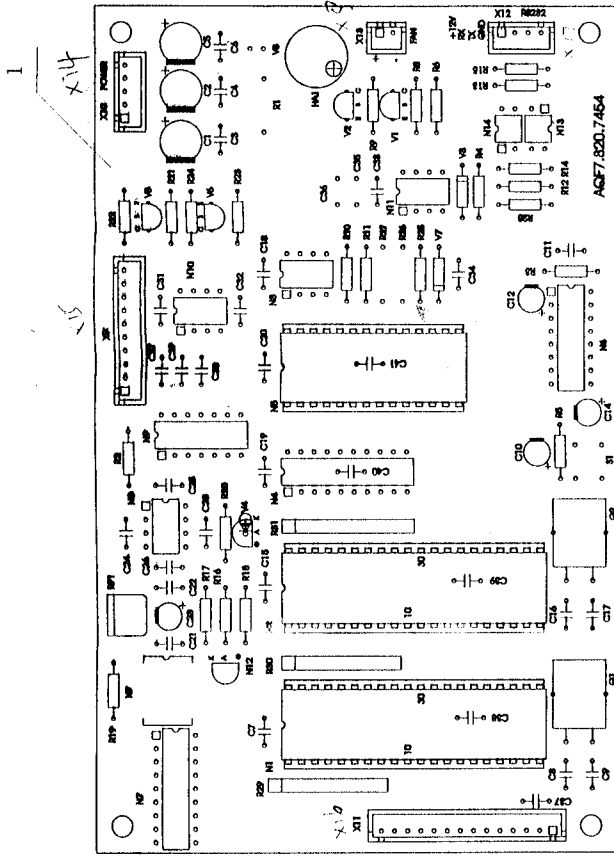
Ref	P/N	Title	Qty	Remarks	Mod.
R17		RESISTOR RJ14-F-0.25-5.8k $\Omega$	1		
R18		RESISTOR RJ14-F-0.25-19k $\Omega$	1		
R19		RESISTOR RJ14-0.25-47 $\Omega$	1		
R20		RESISTOR RJ14-0.25-1k $\Omega$	1		
R21		RESISTOR RJ14-0.25-10k $\Omega$	1		
R22		RESISTOR RJ14-0.25-10k $\Omega$	1		
R23		RESISTOR RJ14-0.25-10k $\Omega$	1		
R24		RESISTOR RJ14-0.25-10k $\Omega$	1		
R25		RESISTOR RJ14-0.25-1k $\Omega$	1		
R26		RESISTOR	0		
R27		RESISTOR	0		
R28		RESISTOR RJ14-0.25-1k $\Omega$	1		
R29		RESISTOR RAH-8R-1k $\Omega$	1		
R30		RESISTOR RAH-8R-1k $\Omega$	1		
R31		RESISTOR RAH-9R-1k $\Omega$	1		
RP1		POTENTIOMETER 3362-500 $\Omega$	1		
C1		CAPACITOR CD11-25-470 $\mu$ F	1		
C2		CAPACITOR CD11-25-470 $\mu$ F	1		
C3		CAPACITOR $\mu$ AD10F104ZT	1		
C4		CAPACITOR $\mu$ AD10F104ZT	1		
C5		CAPACITOR CD11-25-470 $\mu$ F	1		
C6		CAPACITOR $\mu$ AD10F104ZT	1		
C7		CAPACITOR $\mu$ AD10F104ZT	1		
C8		CAPACITOR CC1-15pF	1		
C9		CAPACITOR CC1-15pF	1		
C10		CAPACITOR CD11-50-10 $\mu$ F	1		
C11		CAPACITOR $\mu$ AD10F104ZT	1		
C12		CAPACITOR CD11-50-3.3 $\mu$ F	1		
C13		CAPACITOR CD11-50-10 $\mu$ F	1		
C14		CAPACITOR $\mu$ AD10F104ZT	1		
C15		CAPACITOR CC1-15pF	1		
C16		CAPACITOR CC1-15pF	1		
C17		CAPACITOR $\mu$ AD10F104ZT	1		
C18		CAPACITOR $\mu$ AD10F104ZT	1		
C19		CAPACITOR $\mu$ AD10F104ZT	1		
C20		CAPACITOR $\mu$ AD10F104ZT	1		
C21		CAPACITOR $\mu$ AD10F104ZT	1		
C22		CAPACITOR $\mu$ AD10F104ZT	1		
C23		CAPACITOR CD11-25-100 $\mu$ F	1		







AQF5.948.7701



标注位号的产品见AQF2.932.7338DL/4元件目录

序号	代号	名称	数量	备注
10		锡铅焊料HLSnPb45Φ1.5	1	
9			1	
8		插座 IC28	1	
7		插座 IC40	2	
6		插座 CH2.5-14	1	X11
5		插座 CH2.5-10	1	X9
4		插座 CH2.5-5	1	X10
3		插座 CH2.5-4	1	X12
2		插座 CH2.5-2	1	X13
1	AQF7.820.7454	印制板	1	

标记	数量	更改单号	签名	日期
设计	1	包 跃	2002.4.18	
审核				
工艺				
标准化				
批准				

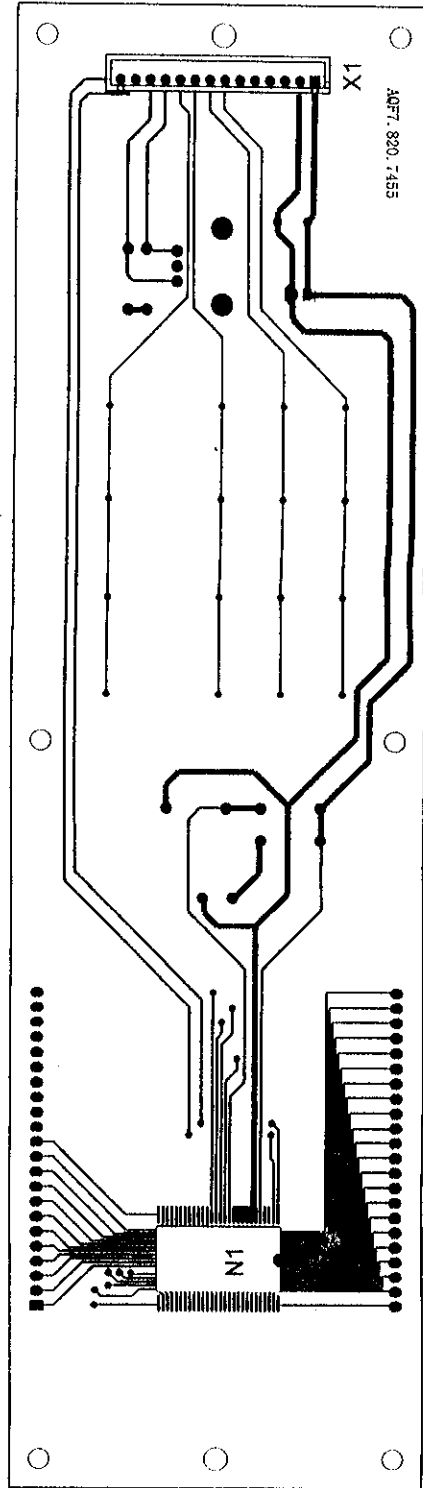
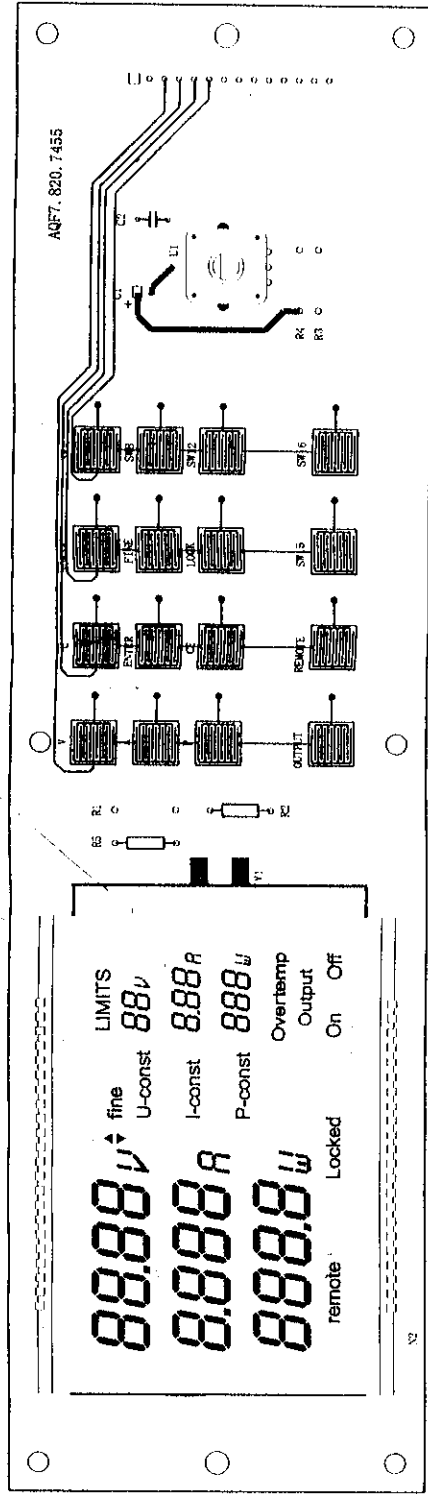
DF1797B-4005		AQF5.948.7701	
程控板装配		PROGRAMMING BOARD ASSEMBLY	
阶段	标记	重量	比例
第 1 张	共 1 张		
宁波中策电子有限公司			

制图: 包 跃

幅面: 3

格式 (2)

1  
2  
3



标注位号的产品见AQF2.932.7338DL/5元件目录

序号	代号	名称	数量
3		锡铅焊料HLSnPb45Φ1.5	
2		液晶显示屏ZS5276A	1
1		背光源PYB-8250G	1
1	AQF7.820.7455	印制板	1

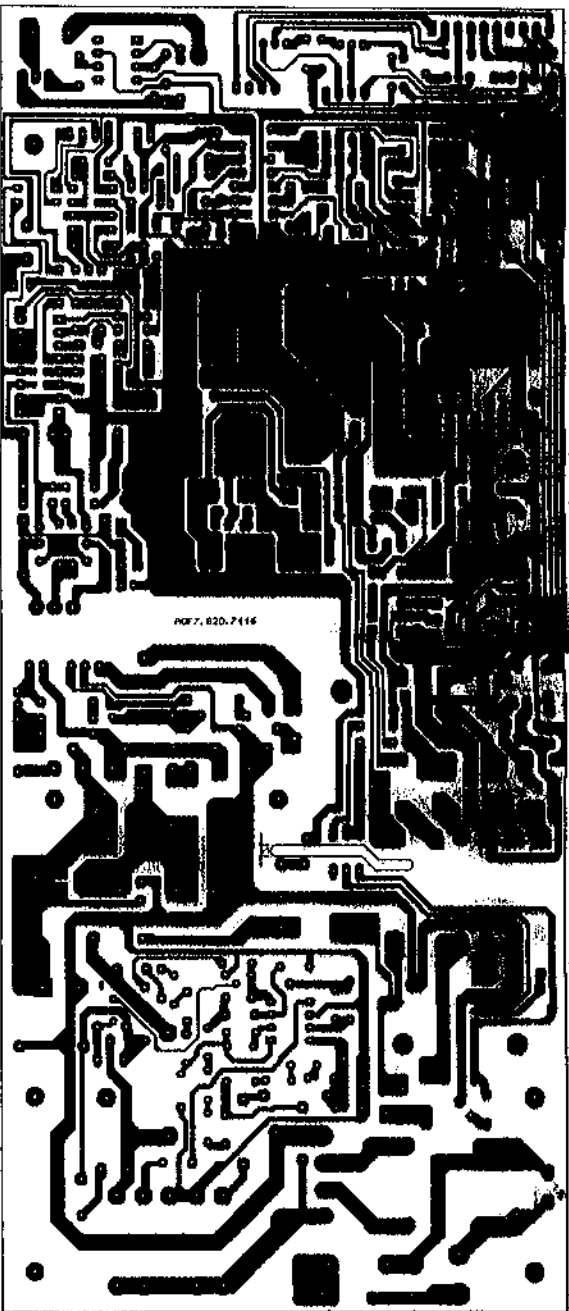
标记	数量	更改单号	签名	日期
设计	1	2002.2.18		
审核				

注:背光源与印制板之间用双面胶单弧粘合

DF1797B-4005

显示板装配  
DISPLAY BOARD ASSEMBLY

AQF5.948.7702



未注公差尺寸按GB1804-M

镀涂

DF1797B-4005

AQ7.820.7446

印制板

PCB

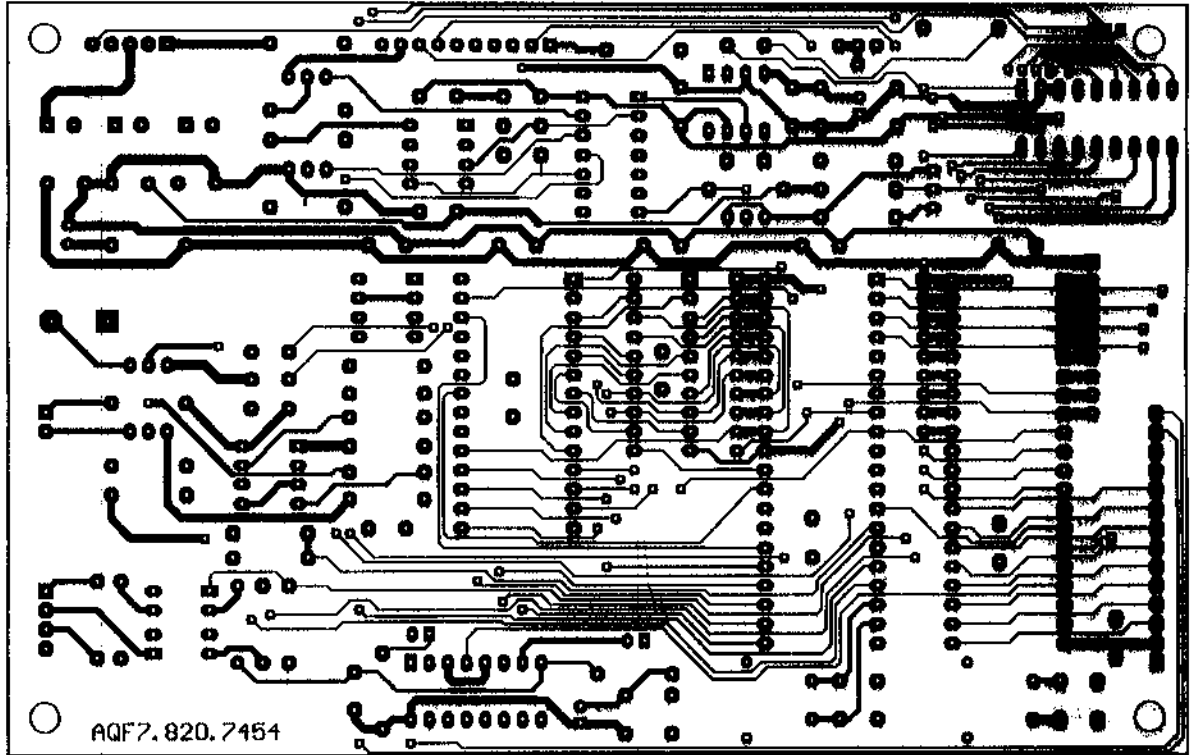
单面覆铜箔层压板 THAB-67  
D 1.5 GB4725-84  
宁波中策电子有限公司

标记	数量	更改单号	签名	日期
设计				
审核				
工艺				
批准				
批				

阶段	标记	重量	比例
第 1 张			1:1
共 3 张			



1. 阻焊剂工艺按 Q/AQF100B-1999  
典型执行.
2. 孔金属化
3. 热风整平



AQF7.820.7454

未注公差尺寸按 GB1004 - m

镀涂

DF179TB-4005

AQF 7. 8 20. 7454

印制板  
PCB

等级	标记	重量	比例
第 1 张		共 4 张	

双面覆铜箔层压板 THAB 67

第 1 张 共 4 张

S 1.5 QB4725-84

24

媒体编号

旧底图总号

底图总号

更改标记 数量 更改单位 签名 日期

设计  
审核  
工艺

包 2002.4.1

标准化  
批准

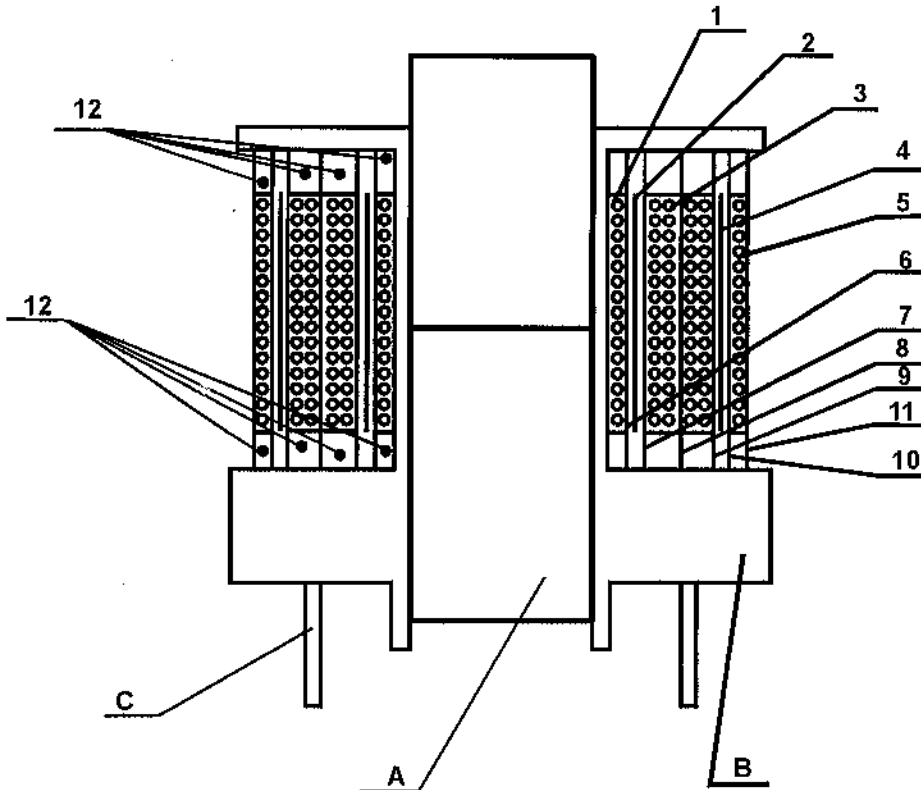
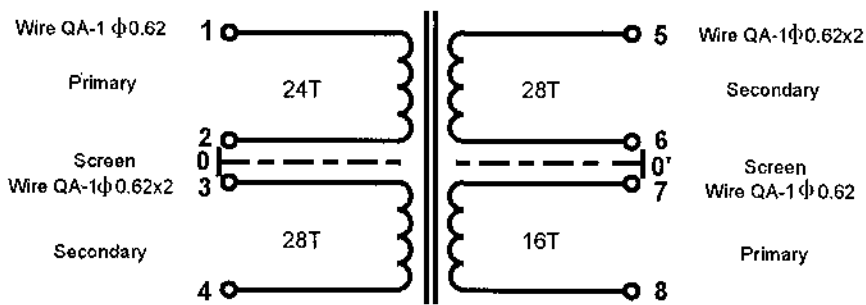
日期 签名

格式(1)

制图:

描图:

幅面:



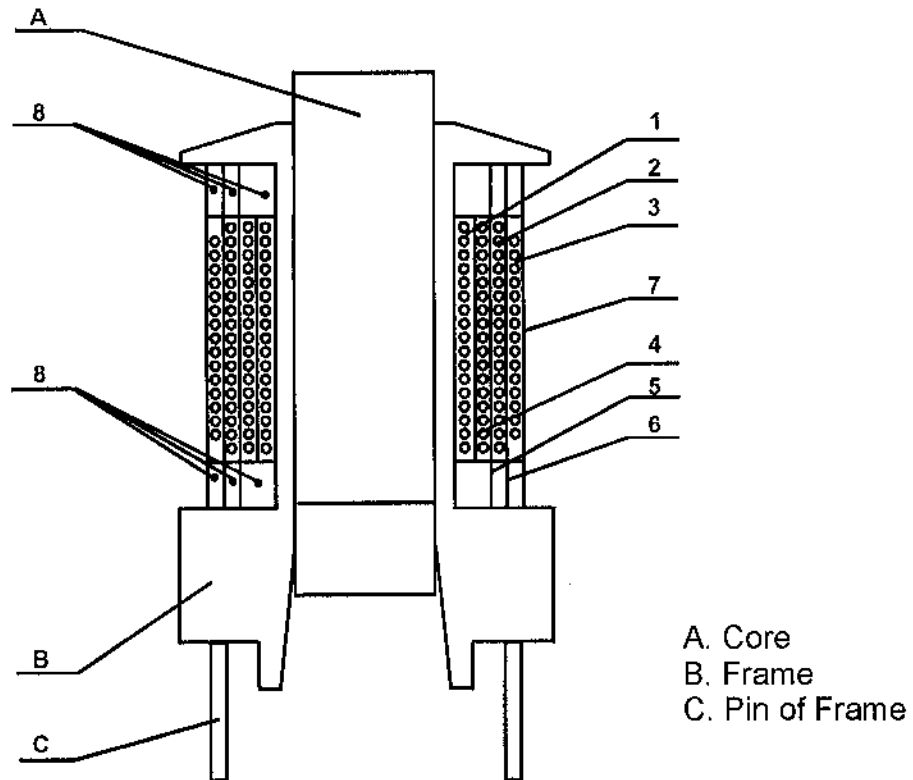
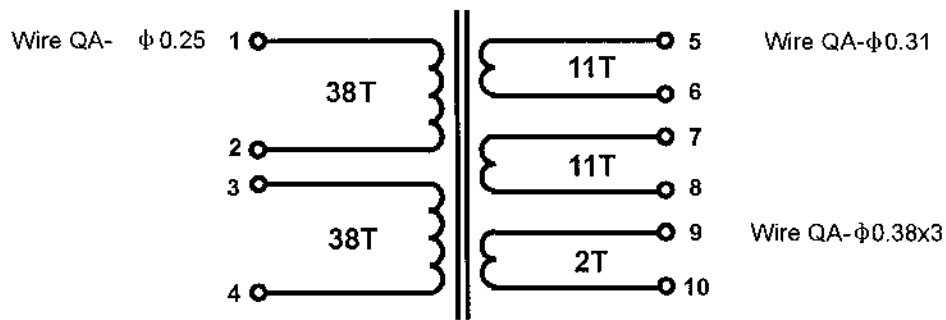
A: Core  
 B: Mecarta Frame  
 C: Pin of Frame

1. Primary coil
2. screen
3. Secondary coil
4. Screen
5. Primary coil
6. Insulating tape between primary and screen (thickness 0.06mm, 2plies)
7. Insulating tape between screen and secondary (thickness 0.06mm, 2plies)
8. Insulating tape between secondary and secondary (thickness 0.06mm, 1ply)
9. Insulating tape between secondary and screen (thickness 0.06mm, 2plies)
10. Insulating tape between screen and primary (thickness 0.06mm, 2plies)
11. Insulating tape outside of coil (thickness 0.06mm, 3plies)
12. Flame nonwoven cloth (thickness 0.4mm, width 3.5mm)
13. Extruded tubing (teflon) covering leading-out wire of primary, secondary & screen

**NOTE:**

1. Insulating material: a. polyester film tape, thickness 0.06mm, 4kV, 130°C, class B  
 b. flame nonwoven cloth, thickness 0.4mm, 5kV, 130°C, class B  
 c. varnished wire QA temperature class E

2. Insulation class of the transformer is B



1. Primary coil
2. Secondary coil
3. Secondary coil
4. Insulating tape between primary and primary (thickness 0.06mm, 1ply)
5. Insulating tape between primary and secondary (thickness 0.06mm, 3plies)
6. Insulating tape between secondary and secondary (thickness 0.06mm, 3plies)
7. Insulating tape outside of coil (thickness 0.06mm, 3plies)
8. Flame nonwoven cloth (thickness 0.4mm, width 3.5mm)
9. Extruded tubing (teflon) covering leading-out wire of primary
10. Extruded tubing (teflon) covering leading-out wire secondary

**NOTE:**

1. Insulating material: a. polyester film tape, thickness 0.06mm, 4kV, 130°C, class B  
 b. flame nonwoven cloth, thickness 0.4mm, 5kV, 130°C, class B  
 c. varnished wire QA temperature class E
2. Insulation class of the transformer is B



## KEY MATERIAL LIST

ITEM	TITLE	SPECIFICATION	MANUFACTURER	
1	POWER SOCKET	HF-301 (VDE)	CHANGZHOU JIANLI ELECTRONIC CO LTD	ATTACH 1
2	FUSE	3.15A (VDE)	LITTELFUSE OVS CO.,LTD	ATTACH 2
3	CAPACITOR	UL APPROVAL FILE NO. E146544	PAN OVERSEAS ELECTRONIC CO LTD	ATTACH 3
4	POWER SWITCH	KDC-A04 (TUV APPROVED)	HUAFENG ELECTRONIC COMPONENT FACTORY	ATTACH 4
5	TRANSFORMER		NINGBO ZHONGCE ELECTRONICS CO., LTD	
6	PCB	UL APPROVAL FILE NO. E123995	KINGBOARD LAMINATES LTD	ATTACH 5
7	BRIDGE RECTIFIERS	UL APPROVAL FILE NO. E142814	DC COMPONENTS CO., LTD	ATTACH 6
8	FUSE HOLD		NINGBO ZHONGCE ELECTRONICS	
9	FRAME MATERIAL	PLASTICS (UL APPROVAL FILE NO. E176036)	SHANGHAI EUROPEAN-ASIAN SYNTHETIC MATERIAL CO LTD	ATTACH 7
10	VARNISHED WIRE	QA- $\phi$ 0.31 QA- $\phi$ 0.41 QA- $\phi$ 0.47 QA- $\phi$ 0.62 (UL APPROVAL FILE NO. E214423)	SHANGHAI ASIA PACIFIC ELECTRIC CO LTD	ATTACH 8
11	INSULATING TAPE	UL APPROVAL FILE NO. E188295	SUZHOU JINGYI SPECIAL ADHESIVE TAPE CO LTD	ATTACH 9

ITEM	TITLE	SPECIFICATION	MANUFACTURER	
12	EXTRUDED TUBING	UL APPROVAL FILE NO. E203950	SHENZHEN WOER HEAT-SHRINKABLE MATERIAL CO LTD	ATTACH 10
13	EXTRUDED TUBING	UL APPROVAL FILE NO. E156256	GREAT HORDING INDUSTRIAL CO LTD	ATTACH 11
14	WIRE	UL APPROVAL FILE NO. E117674	SHANGHAI 5 <sup>TH</sup> ELECTRIC WIRE FACTORY	ATTACH 12
15	PLASTIC PART	UL APPROVAL FILE NO. E169305	NINGBO XINGAO SHARE CO LTD	ATTACH 13
16	POWER CORD	VDE APPROVED	YUYAO JIN MA ELECTRIC WIRE FACTORY	ATTACH 14
17	PLUG	3VTJ1 (VDE APPROVED)	ZHENGJIANG HUAYIN INSTRUMENT & ELECTRICAL EQUIPMENT CO., LTD	ATTACH 15
18	PLUG	ST3 (VDE APPROVED)	NINGBO YUNHUAN ELECTRONICS GROUP CORPORATION	ATTACH 16
19	COATINGS FOR PCB	UL APPROVAL FILE NO. E67710	TAMURA KAKEN CO LTD	ATTACH 17
20	NONWAVEN CLOTH	UL APPROVAL FILE NO. E165111	JINGJIANG PRESSURE SENSITIVE GLUE FTY	ATTACH 18
21	RELAY	942H-1C-12DS (VDE)	NINGBO TIANBO TELECOMMUNICATION EQUIPMENT FACTORY	ATTACH 19
22	FAN	CF-12815S (TUV)	COLORFUL INDUSTRIAL LIMITED	ATTACH 20
23	MATERIAL OF POWER-SOCKET	MAKROLON 2805 TECHNIQUE DATA		ATTACH 21
24	FILTER	04SS4-2DC2-A-Q (VDE)	TRI-POWER TECHNOLOGY CO., LTD.	ATTACH 22
25	FLEXIBLE SILICONE GLASSLIBER SLEEVING	FSG-3A (UL NO. E146955 (S))	SIN TIONG WAN ELECTRIC PRODUCTS CO., LTD.	ATTACH 23