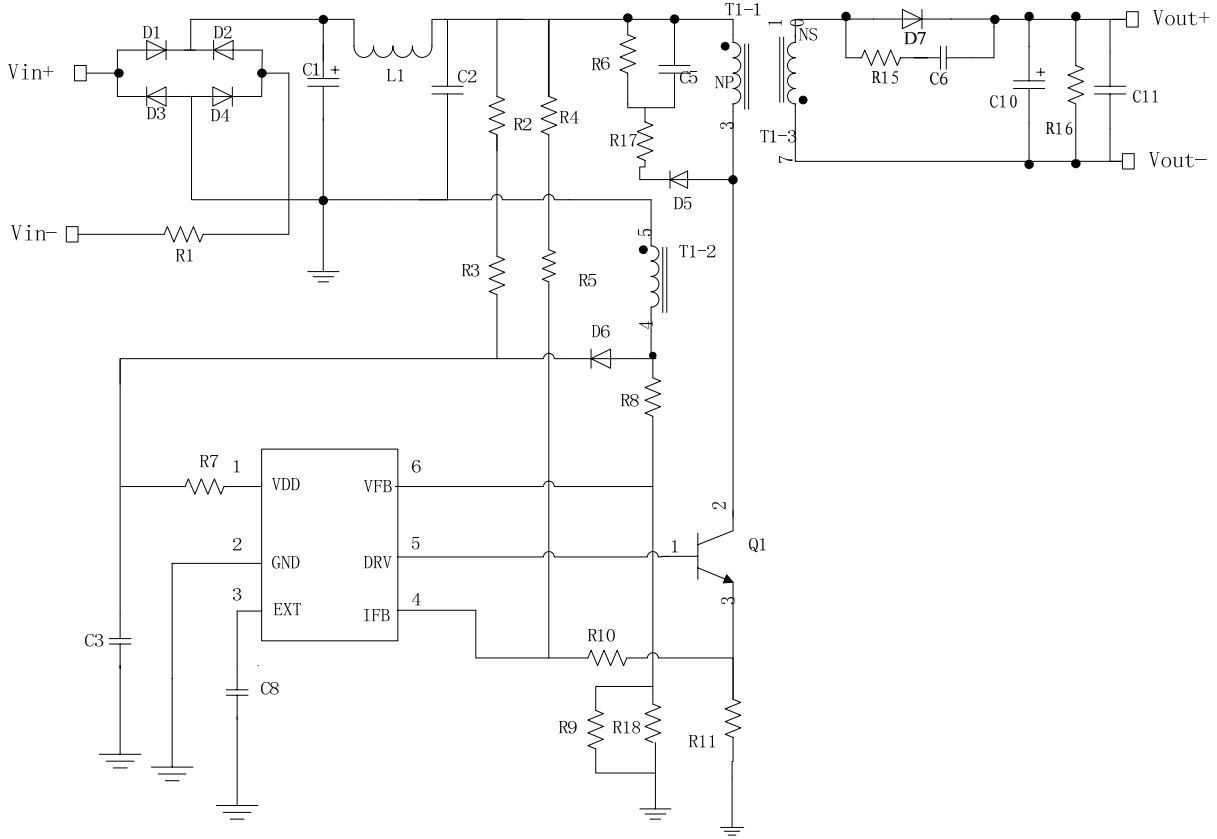


BF1509 5V/1A

1. Schematic



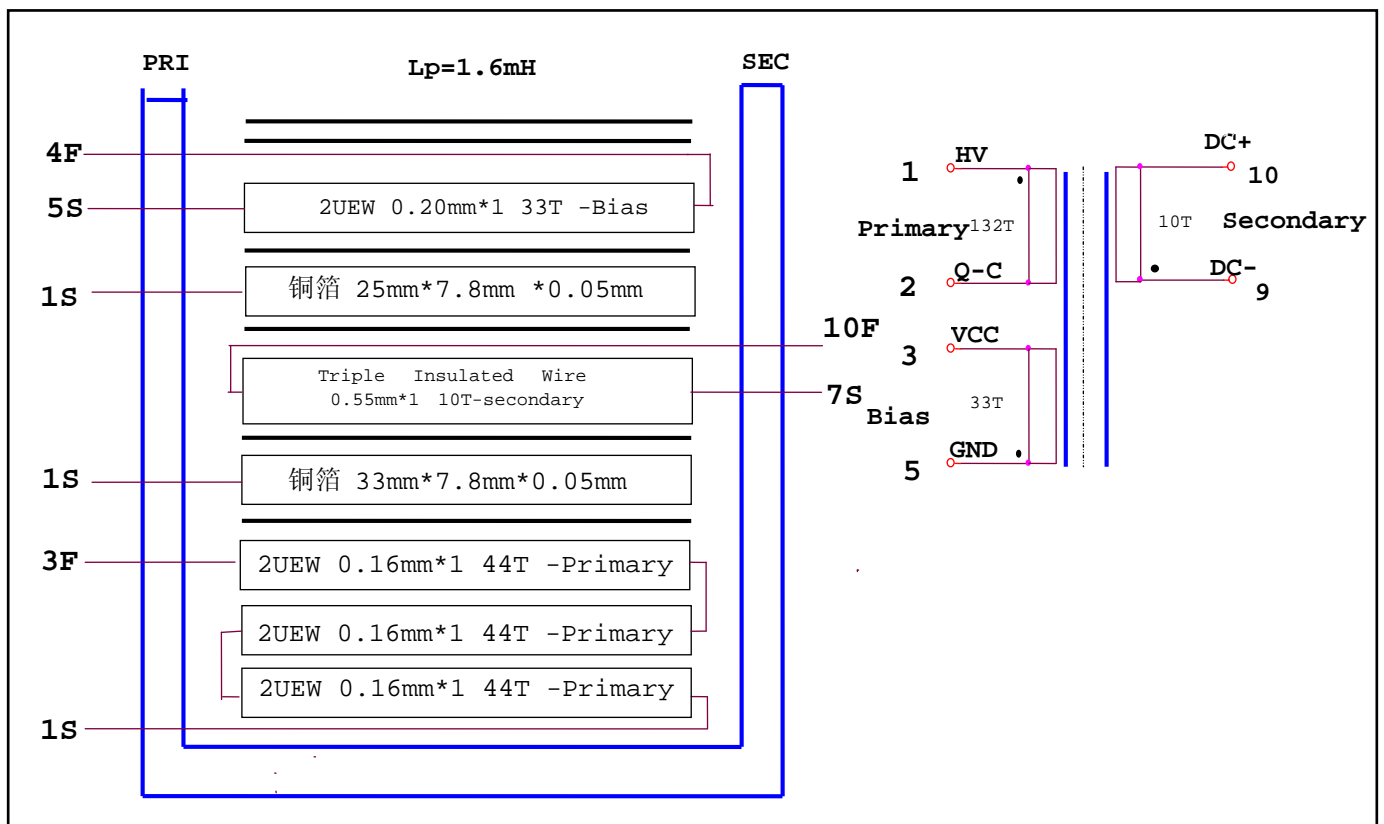
2. BOM

BOM 清单			
器件编号	器件类型	封装类型	数量
C1	4.7uF, 400V, -40°C-105°C	8*12	1
C2	6.8uF, 400V, -40°C-105°C	10*12	1
C3	4.7uF, 50V, -40°C-105°C, LOW ESR	5*11	1
C5 C6	1nF 250V 5%	0805	2
C9	10nF 50V	0805	1
C10 C11	560uF, 10V, -40°C-105°C, LOW ESR	8*12	2
R1	10R 1W	9*3.5	1
R2	1M 5%	1206	1
R3	1M 10%	1/4W	1
R4	7.5M 10%	1/4W	1
R5	2.4M 5%	0805	1
R6	390K 5%	0805	1



R7	22R 5%	0603	1
R8	24K 1%	0603	1
R9	3.3K 1%	0603	1
R10	3.6K 5%	0603	1
R11	2.0R 1%	1206	1
R15	22R 5%	0805	1
R16	1.5K 5%	0805	1
R17	390R 5%	0805	1
R18	36K 1%	0603	1
D1 D2 D3 D4 D5	1N4007	D0-41	5
D6	FR107	D0-41	1
D7	SB340		1
L1	1mH 10%	4*10	1
Q1	13003	T0-126	1
IC1	BF1502	SOT23-6	1

3. Transformer Specifications





ELECTRICAL SPECIFICATIONS:

- ✧ Primary Inductance (LP)= $1.6 \pm 8\%$ mH @10KHz;
- ✧ primary Leakage Inductance (LK)<60uH @ 10KHZ;
- ✧ Core:EE16(Ferrite Material TDK PC40 or equivalent);
- ✧ Bobbin:EE16(6+4)
- ✧ Magnet wire : TYPE 2 - UEW(Primary), Triple Insulated Wires (Secondary);
- ✧ HI-POT:
PRI. TO SEC: AC3000V 5mA 3SEC
SEC TO CORE: AC1500V 5mA 3SEC
PRI. TO CORE: AC1500V 5mA 3SEC
- ✧ 剪去Pin6,剩下Pin2 Pin8 Pin9为空脚;
- ✧ 变压器要浸油、且两磁芯接触处、磁芯与线包处要点胶, 烘干;

4. Efficiency Test

Vin (Vac)	Pin (W)	Iout (mA)	Vout (V)	Ripple (mV)	Pout (W)	η (%)	AVG η (%)	五级能效标准	测试条件
115V/50Hz	0.064	0	5.16	/	0.00	/	71.69	68.17	输出端外接 1.5m 24AWG 输出线,且 变压器已点 胶浸油
	1.77	250	5.19	/	1.30	73.31			
	3.58	500	5.20	/	2.60	72.63			
	5.43	750	5.16	/	3.87	71.27			
	7.32	1000	5.09	79	5.09	69.54			
230V/50Hz	0.117	0	5.13	/	0.00	/	71.49	68.17	输出端外接 1.5m 24AWG 输出线,且 变压器已点 胶浸油
	1.83	250	5.19	/	1.30	70.90			
	3.59	500	5.20	/	2.60	72.42			
	5.38	750	5.16	/	3.87	71.93			
	7.20	1000	5.09	76	5.09	70.69			

5. EMI Test

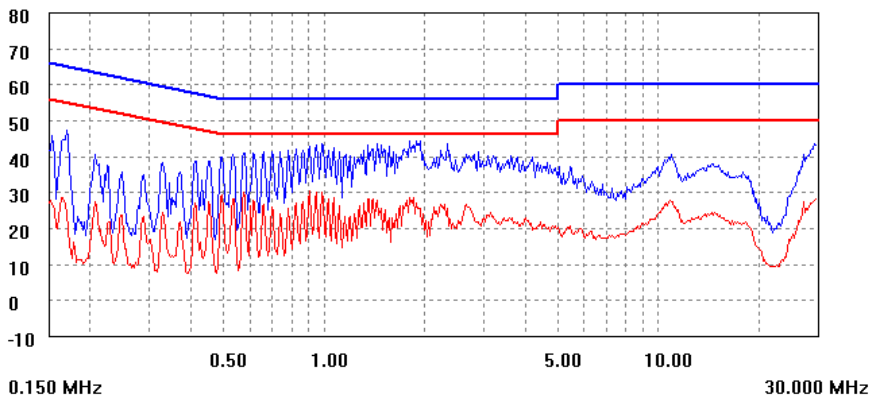
N线: AC230V 1.5M24#输出线 带5R水泥负载



Organization: BYD Operator: EUT: parameter
Place: Time: 2011/7/11/11:41
Detector: PK+AV Test-time(ms): 10
Limit: EN55022B Transductor: PK1
Remark:

Start(MHz) End(MHz) Step(MHz) freq, step
0.150 1.000 0.002
1.000 2.000 0.005
2.000 10.000 0.015
10.000 30.000 0.020

dBuV scan result



L线: AC230V 1.5M24#输出线 带5R水泥负载

Organization: BYD Operator: EUT: parameter
Place: Time: 2011/7/11/11:38
Detector: PK+AV Test-time(ms): 10
Limit: EN55022B Transductor: PK1
Remark:

Start(MHz) End(MHz) Step(MHz) freq, step
0.150 1.000 0.002
1.000 2.000 0.005
2.000 10.000 0.015
10.000 30.000 0.020

dBuV scan result

