REACTOR Microelectronics

陕西亚成微电子有限责任公司

方案调试与验证报告

AE&FAE Department

Version:1.1

测试工程师：熊　平　　日期：2011 年 1 月 5 日

审　　核：赵 雄 飞　　日期：2011 年 1 月 5 日

Test Item:

1: Load Regulation;

2: Line Regulation;

3: Output Ripple Voltage;

4: Efficiency;

5: OCP;

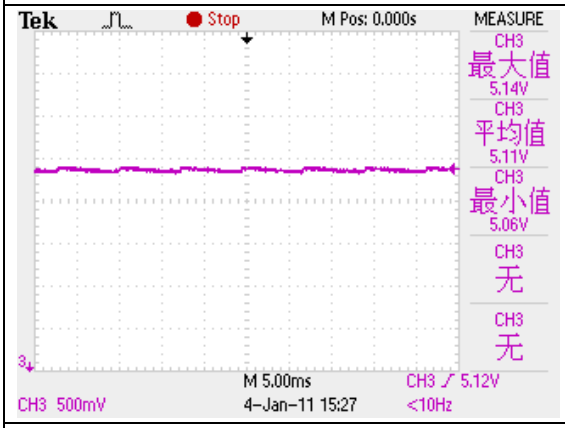
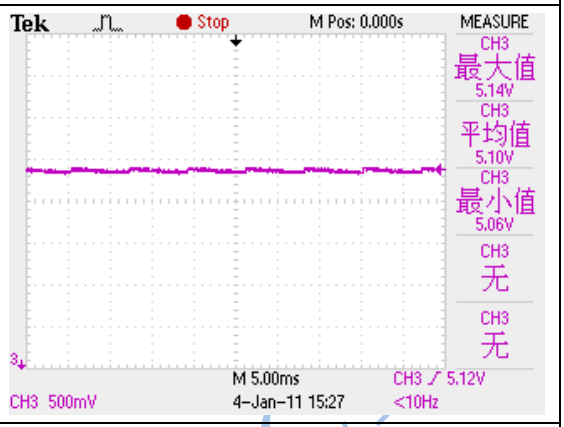
6: Thermal;

7: OSP;

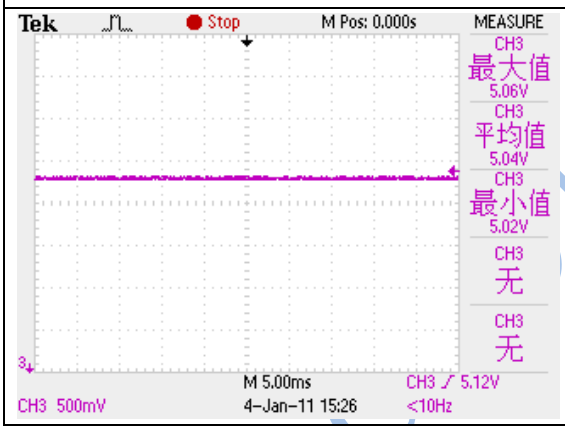
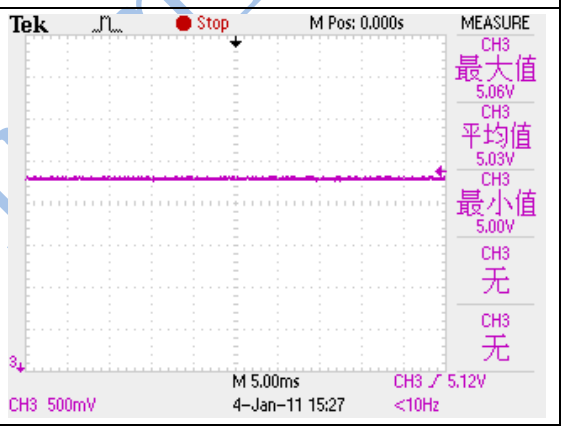
8: Diode Drop Voltage;

1: Load Regulation;

Vout(max)= 5.25V ; Vout(min)= 4.75 ; Vout(avg)= 5.00V ;Iload= 0A ;

Vin=90V	Vin=230V
	
CH3:Vout	CH3:Vout

Vout(max)= 5.25V ; Vout(min)= 4.75V ; Vout(avg)= 5.00V ;Iout= Iout(max);

Vin=90V	Vin=230V
	
CH3:Vout	CH3:Vout

$$Load\ \text{Re}gulation = \frac{V_0 - V_1}{V_0} = 1.4\% \ ;$$

2: Line Regulation:

Test Condition: Vin=90V-265V, Iload=0A

Vin(V)	90	115	185	220	235	265
Vout(V)	5.09	5.09	5.09	5.09	5.09	5.09

Line regulation: <=0.5% ;LG (MAX): 2% ; Result: PASS ;

Test Condition: Vin=85V-265V, Iload=Iout(max)

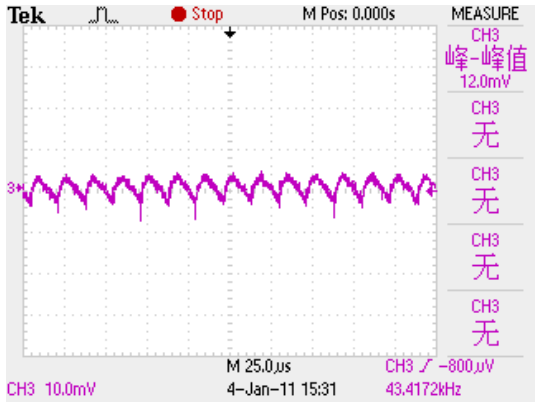
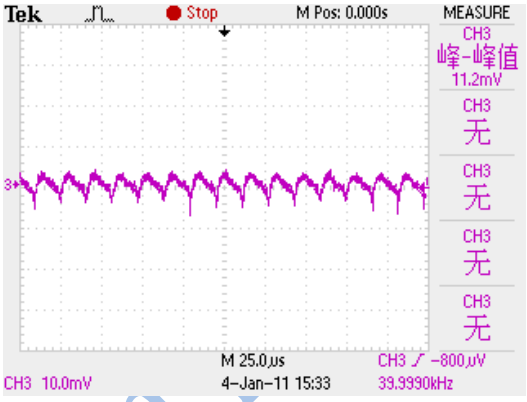
Vin(V)	90	115	185	220	235	265
Vout(V)	5.03	5.03	5.03	5.03	5.03	5.03

Line regulation: <=0.5% ;LG (MAX): 2% ; Result: PASS ;

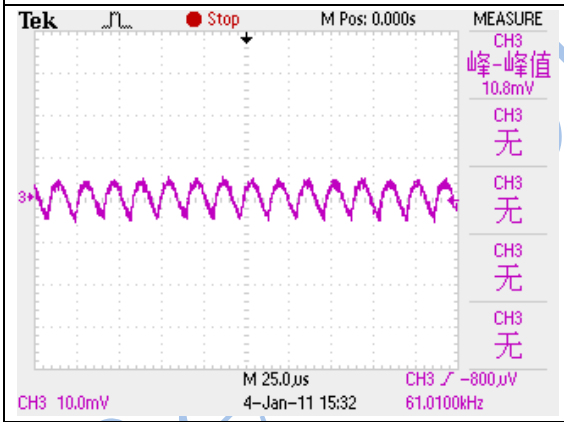
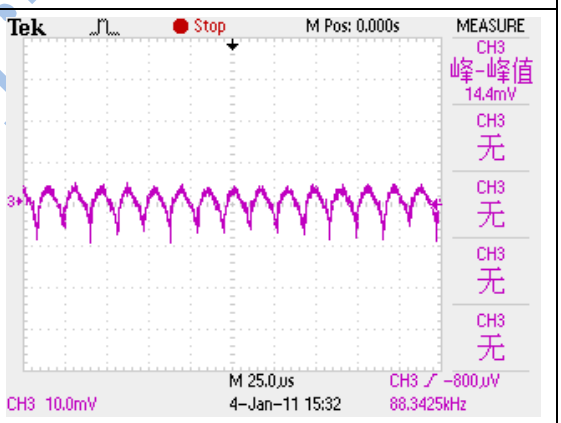
$$Load\ \mathrm{Re}gulation = \frac{V_{90} - V_{265}}{V_{90}} = \underline{\ <=0.5\%\ ;}$$

3: Output Ripple Voltage:

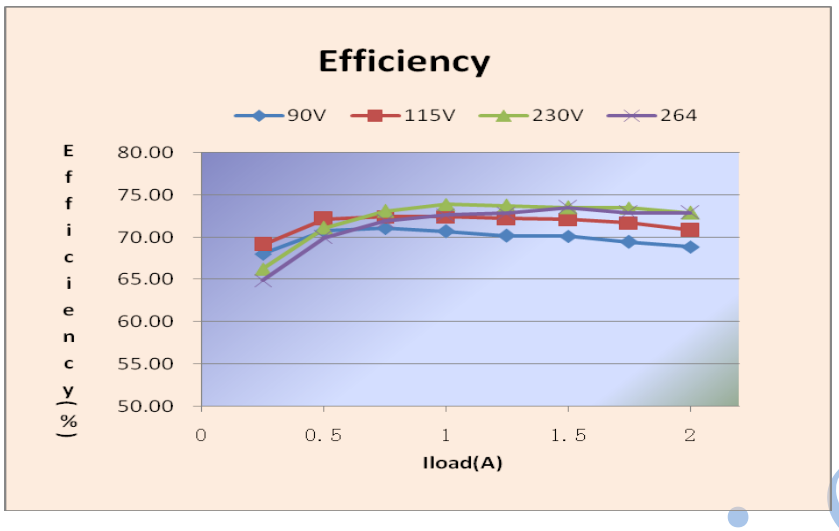
Iout= 1/2Iout(max);

Vin=90V	Vin=230V
	
CH3:Vripple	CH3:Vripple

Iout= Iout(max);

Vin=90V	Vin=230V
	
CH3:Vripple	CH3:Vripple

4: Efficiency:



5: OCP

Vin(V)	90	115	185	220	265
OCP(A)	2.5	2.8	3.1	3.1	3.2
Result	PASS	PASS	PASS	PASS	PASS

Notice: Iocp=(1.3-1.8)Iout(max);

6: Thermal:

Test Condition: Ta=25℃,Test Time:30min;

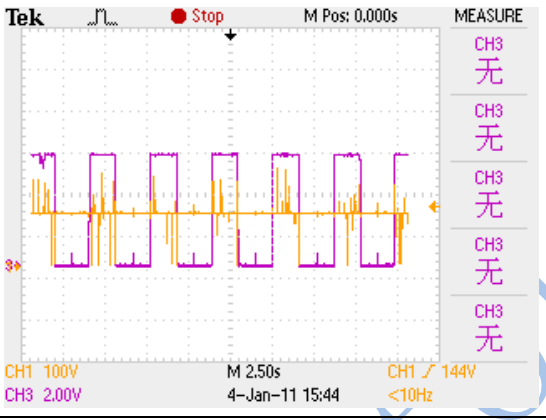
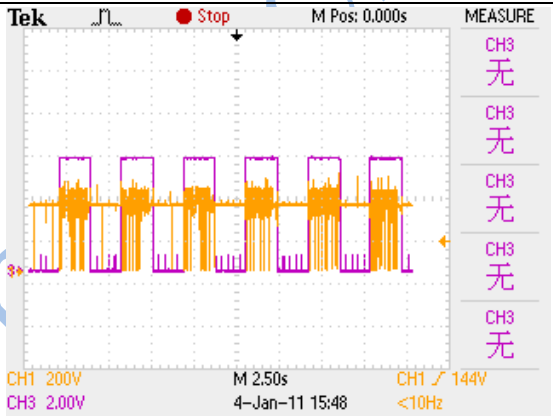
Vin(V)	Iin(A)	IC	Transformer
90V	0.4	44℃	---
	0.8	59℃	---
	1.2	72℃	---
	1.6	85℃	---
	2	101℃	---
Vin(V)	Iin(A)	IC	Transformer
115V	0.4	40℃	---
	0.8	51℃	---
	1.2	59℃	---
	1.6	71℃	---
	2	85℃	---

7：OSP

Test Way:短路输出端开机或者先开机后短路，检测 IC 在这种情况下是否具有自我保护功能，当负载恢复正常后 IC 可以恢复正常工作，输出正常；同时检测此时的输入功率的大小，此时功率越小越好。

Vin(V)	90V	115V	230V	265V
Pin(W)	14.8	14.3	13.8	13.8
Pshort(W)	0-0.05	0-0.09	0.25-1.15	0.39-1.78
Result	PASS	PASS	PASS	PASS

Test Waveform:

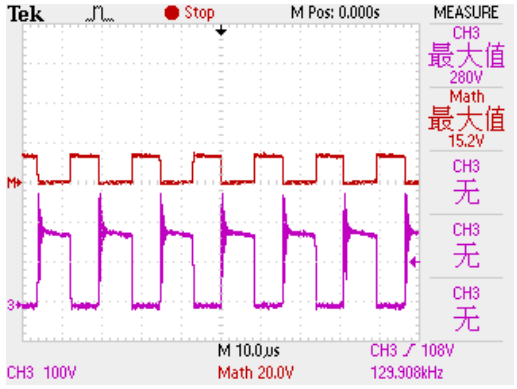
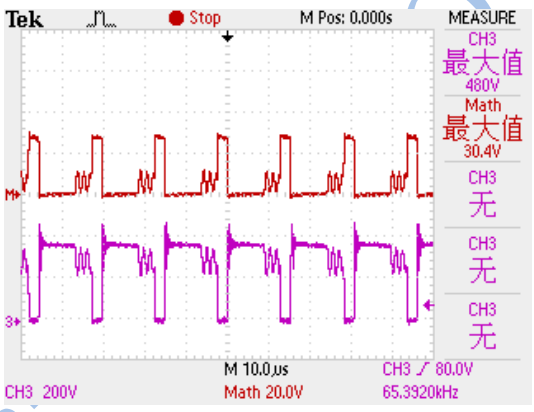
Vin=90V	Vin=230V
	
CH1:Voc;CH3:Vout;	CH1:Voc;CH3:Vout;

8: Dioe drop Voltage: (Iload=Iout(max));

Vin(V)	90V	115V	230V	265V
Vdrop(V)	15.2	19.2	30.4	32.8
Voc(V)	280	336	480	520
Result	PASS	PASS	PASS	PASS

Vdrop:输出整流二极管两端最大压差。Voc：芯片内部集成功率管集电极对地最大压差。

Test waveform:

Vin=90V	Vin=230V
	
CH3:Voc;Math:Vdrop;	CH3:Voc;Math:Vdrop;