Texas Instruments

PMP11600 Test Procedure

Asia Power Design Service

REV A

02/22/2016

1 GENERAL

1.1 PURPOSE

To provide detailed data for evaluating and verifying the PMP11600, which uses TI constant voltage constant current Controller UCC28704, UCC24636 and CSD18502Q5B, 5V3A standard type-C connector adapter with size 35mmx30mmx15mm.The below photo shows this demo board.

1.2 REFERENCE DOCUMENTATION

Schematic PMP11600_SCH.PDF
Assembly PMP11600_PCB.PDF
BOM

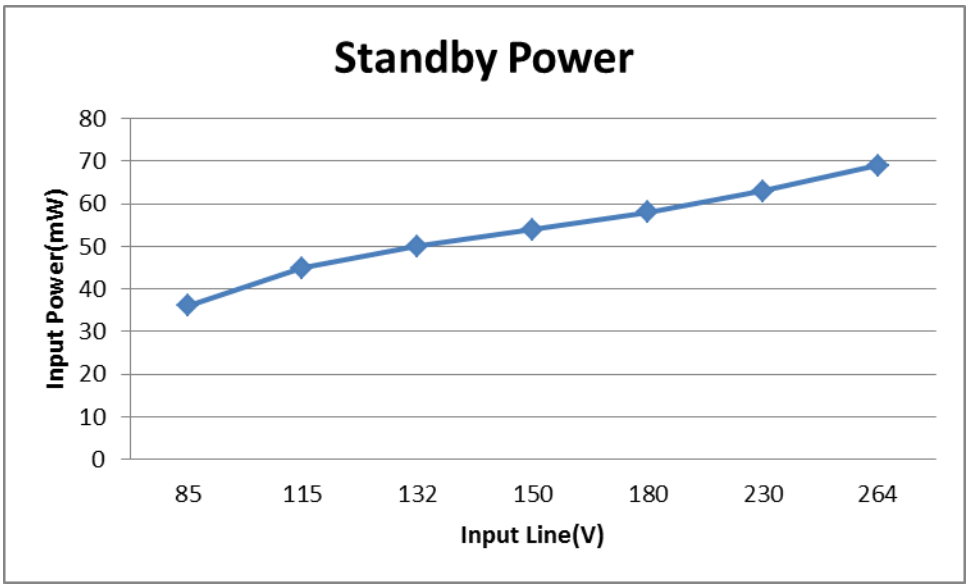
1.3 TEST EQUIPMENTS

Power-meter: YOKOGAWA WT210
Multi-meter(voltage): Fluke 287C
AC Source: Chroma 61503
Electronic load: Chroma 63105 module
Testing demoboard

2 INPUT CHARACTERISTICS

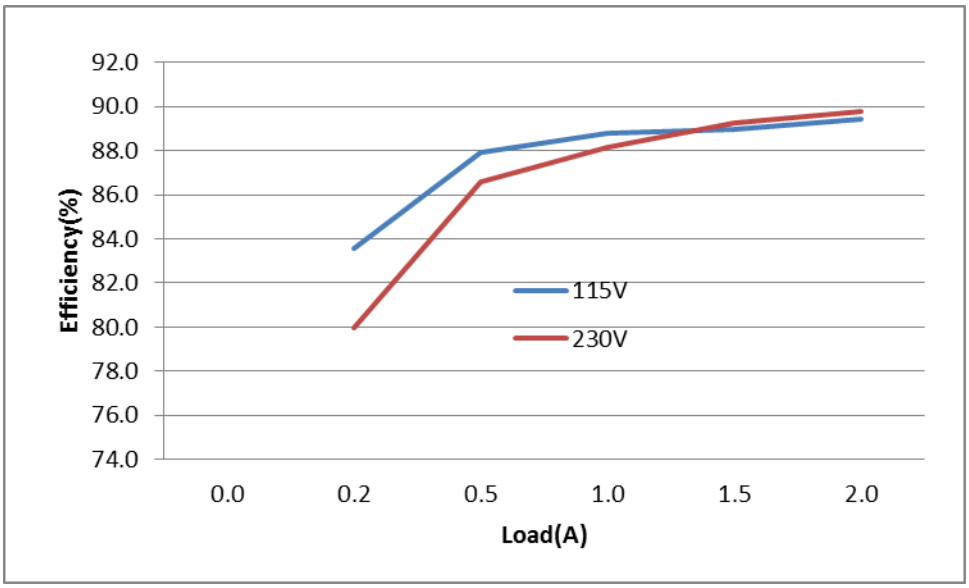
2.1 EFFICIENCY DATA

Input Voltage(V)	85	115	132	150	180	230	264
Standby Power(mW)	36	45	50	54	58	63	69

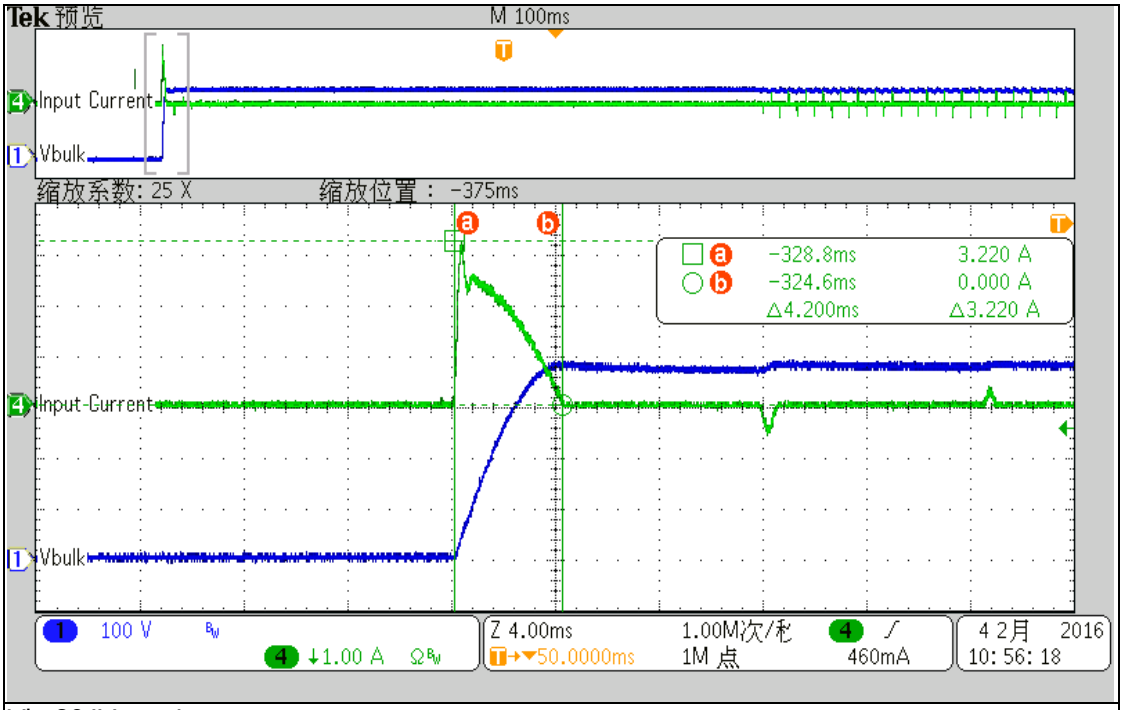


Vin(V)	Pin(W)	Vout (V)	Iout(A)	Pout (W)	Efficiency(%)
115V/60Hz	0.045	5.0387	0.00		
	1.20	5.0168	0.20	1.00	83.54
	2.88	5.0712	0.50	2.54	87.95
	5.80	5.1506	1.00	5.15	88.80
	8.80	5.2187	1.50	7.83	88.96
	11.83	5.2894	2.00	10.58	89.42

Vin(V)	Pin(W)	Vout (V)	Iout(A)	Pout (W)	Efficiency(%)
230V/50Hz	0.063	5.0444	0.00		
	1.26	5.0192	0.20	1.00	79.99
	2.92	5.0643	0.50	2.53	86.60
	5.83	5.1448	1.00	5.14	88.19
	8.76	5.2116	1.50	7.82	89.24
	11.76	5.2802	2.00	10.56	89.80



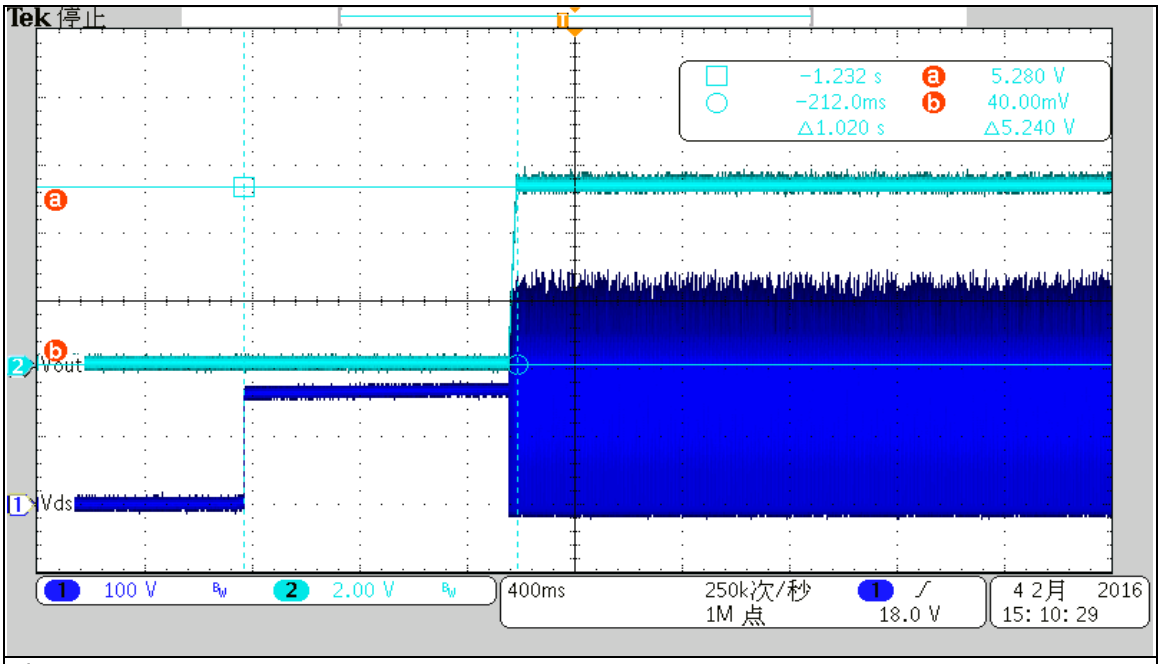
2.2 INPUT INRUSH CURRENT



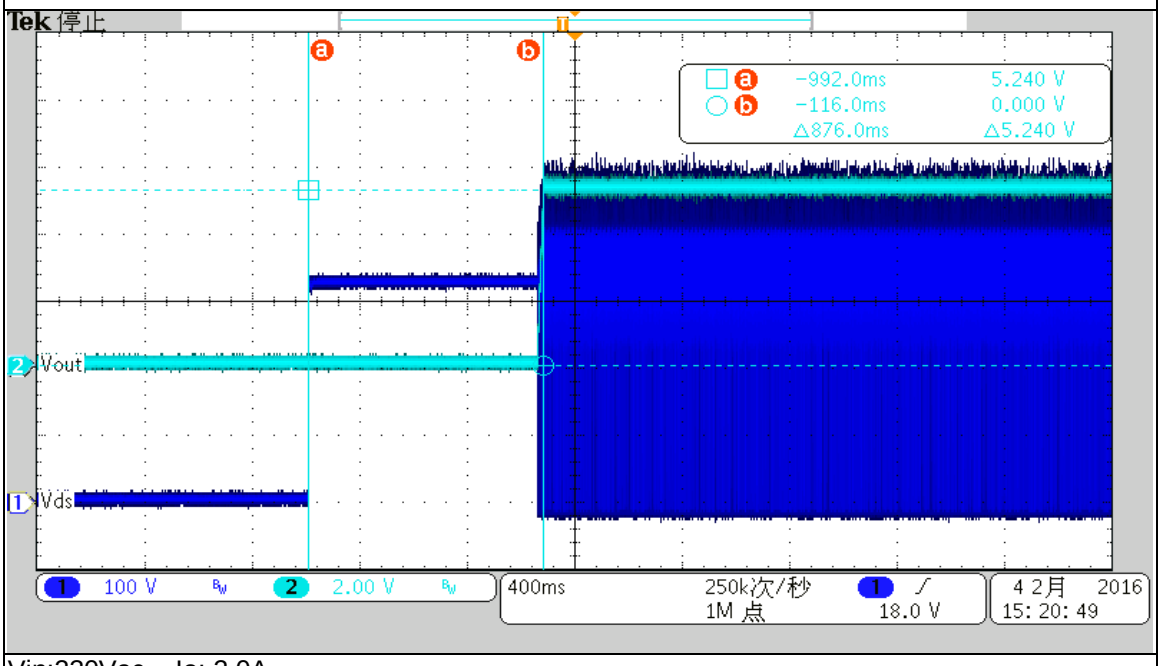
Vin:264Vac Io: 2.0A

3 OUTPUT CHARACTERISTICS

3.1 STARTUP TIME

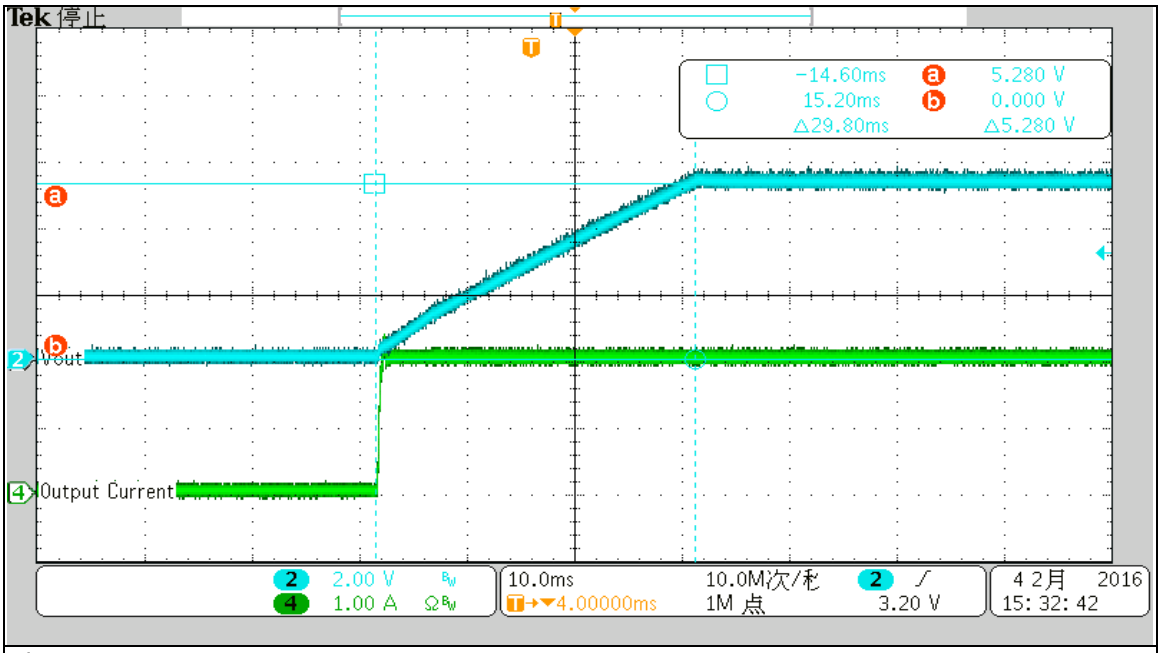


Vin:115Vac Io: 2.0A

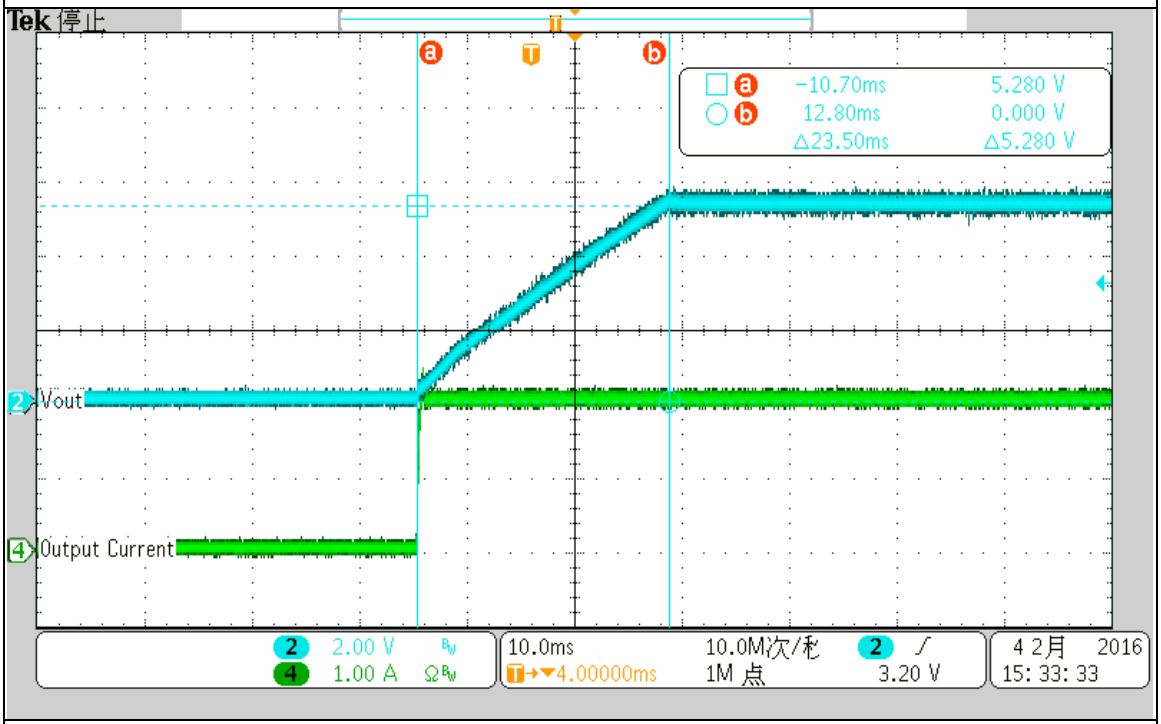


Vin:230Vac Io: 2.0A

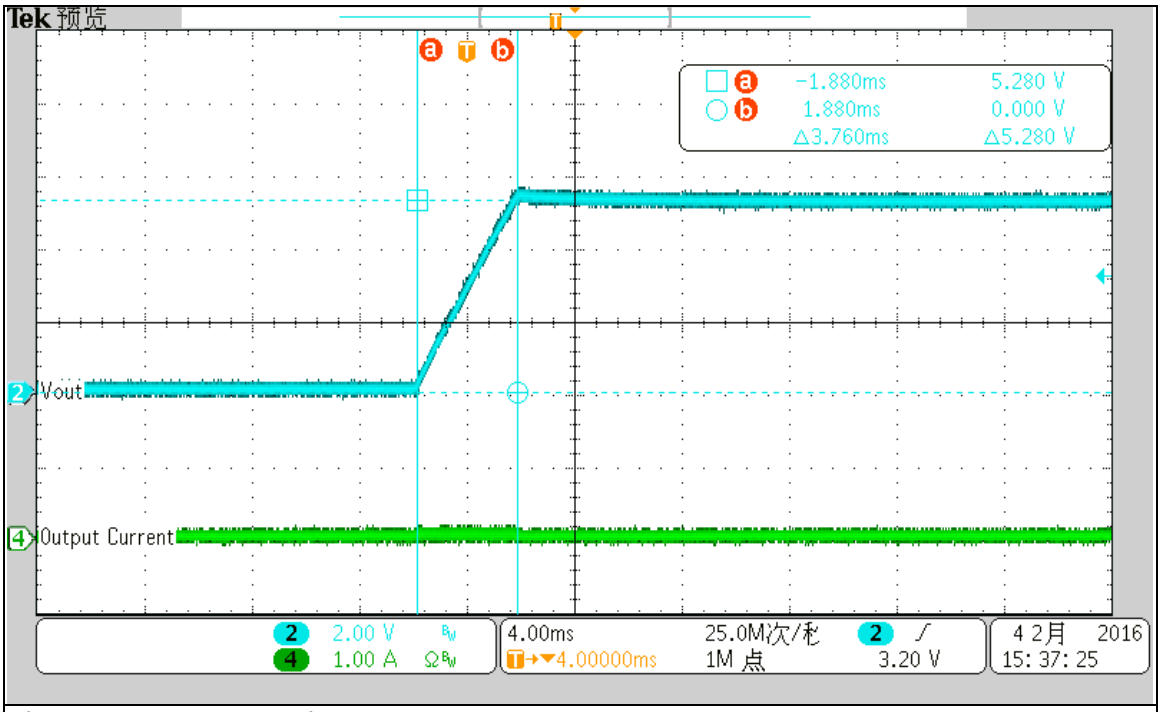
3.2 OUTPUT VOLTAGE RISE TIME



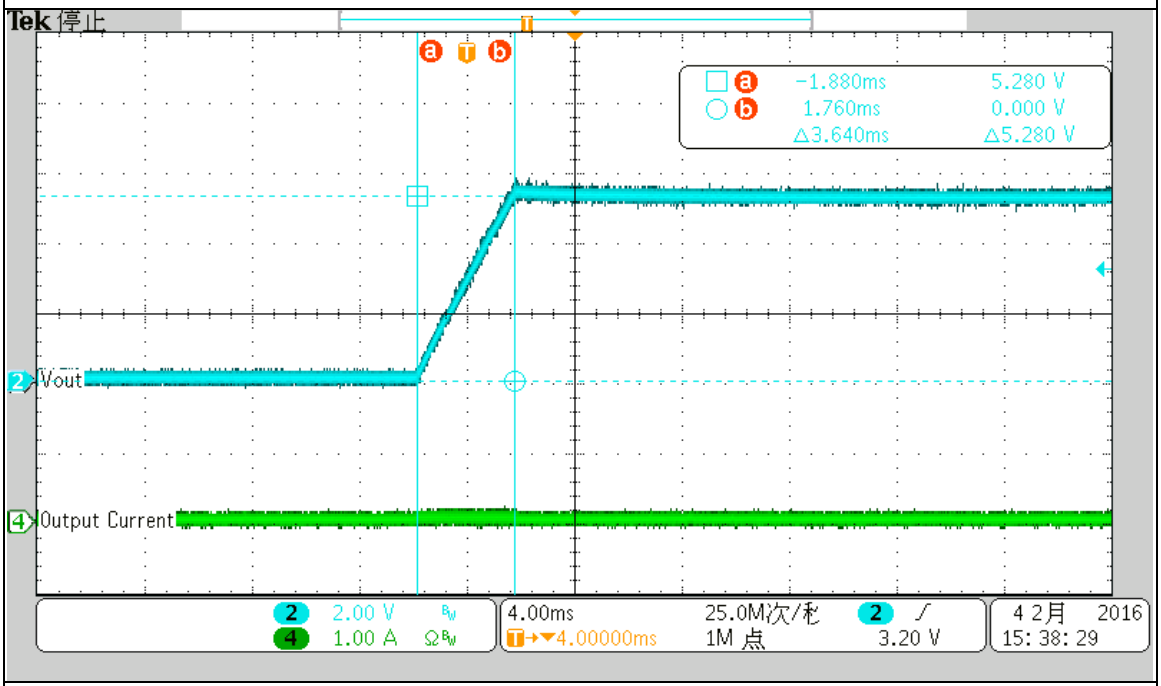
Vin:115Vac Io: 2.0A



Vin:230Vac Io: 2.0A

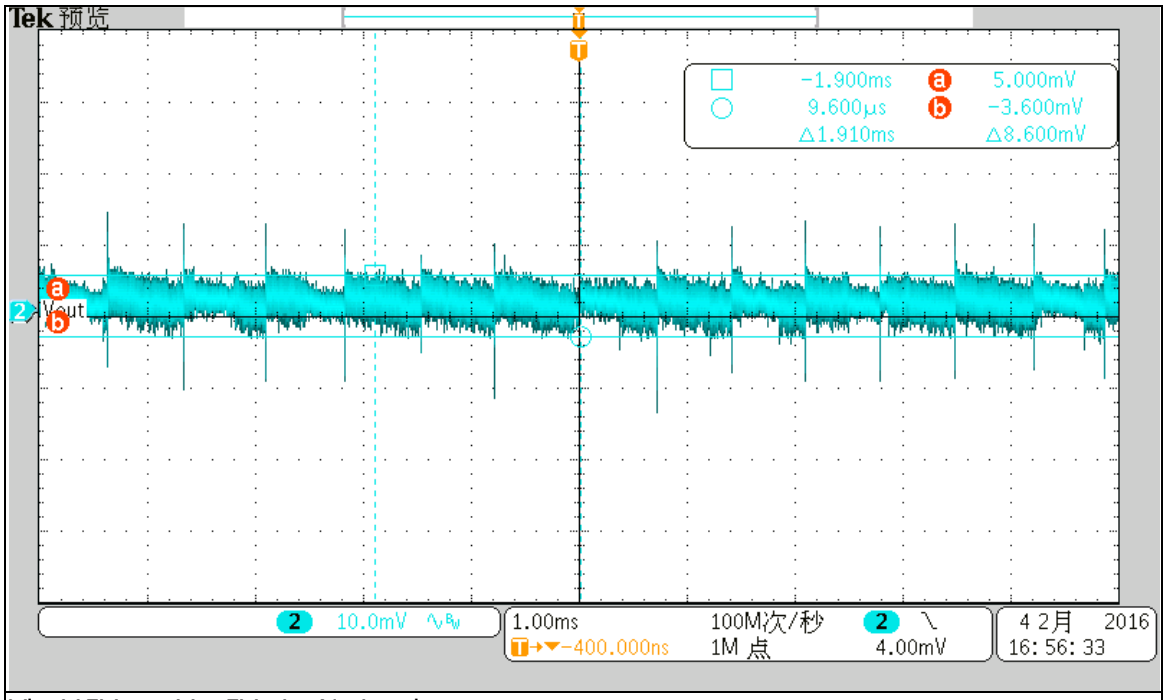


Vin:115Vac Io: No Load

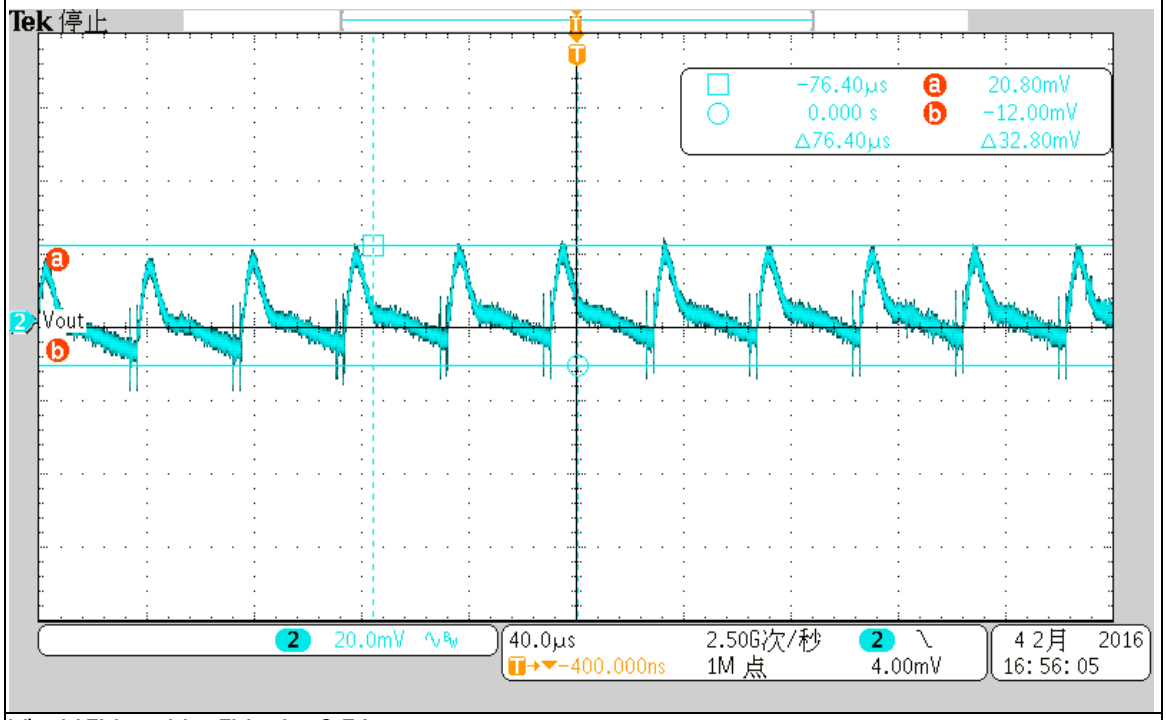


Vin:230Vac Io: No Load

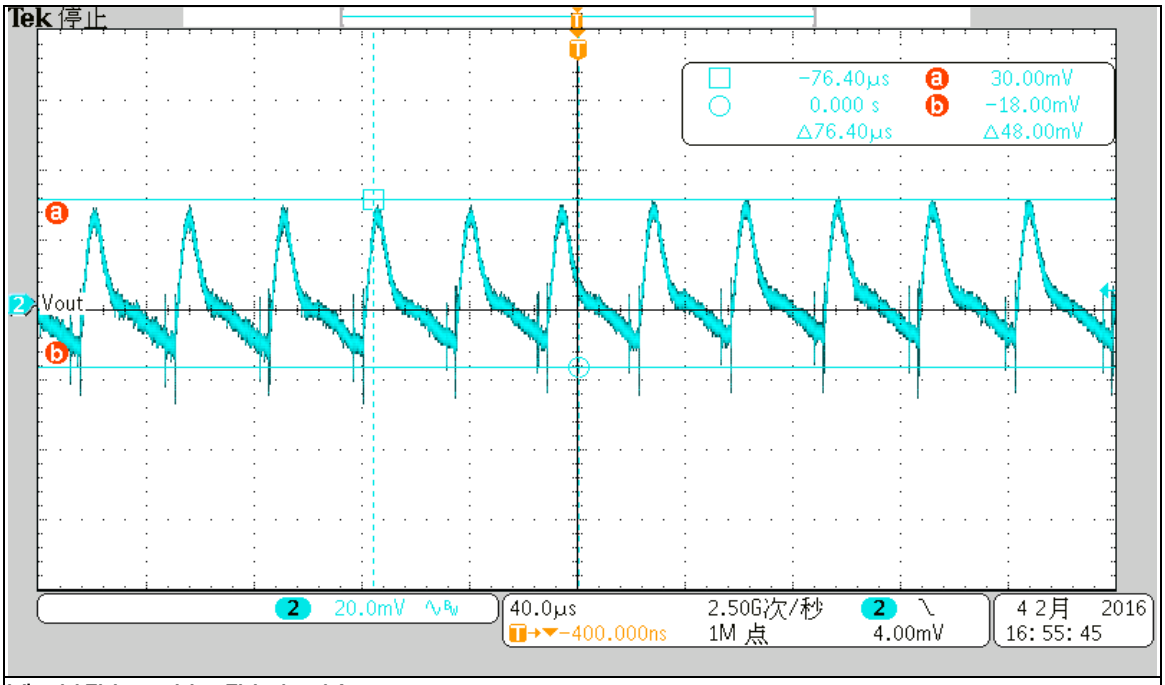
3.3 RIPPLE VOLTAGE



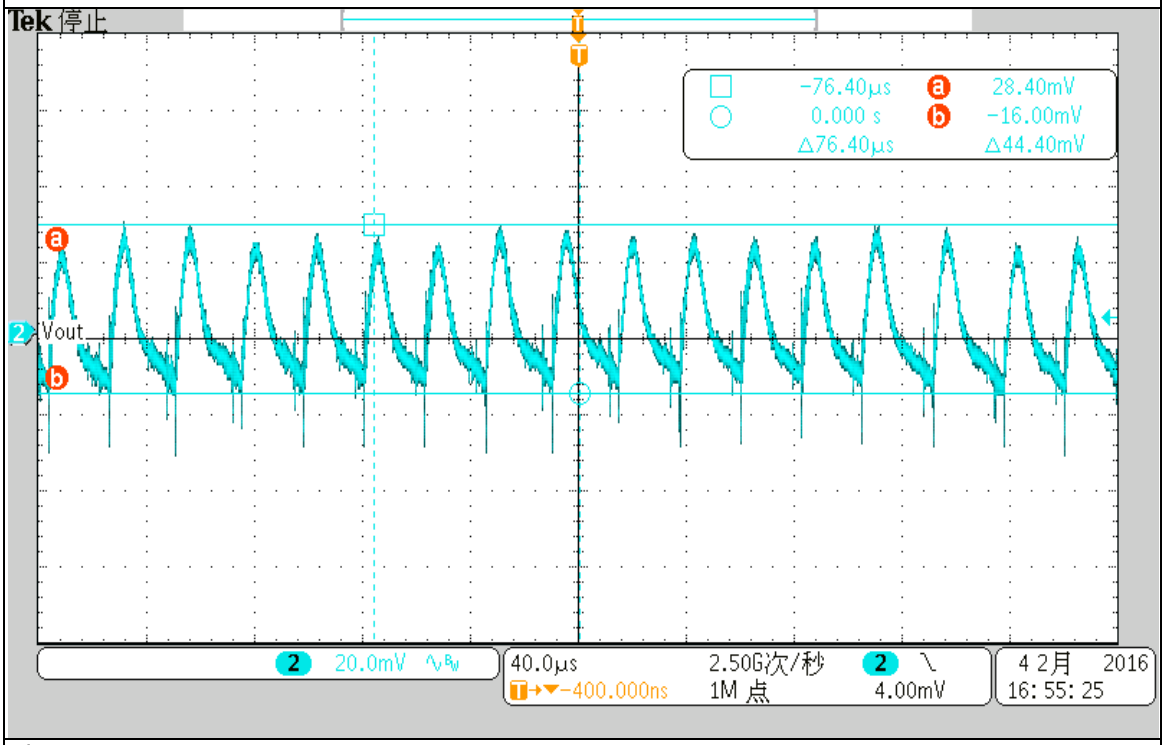
Vin:115Vac Vo=5V Io: No Load



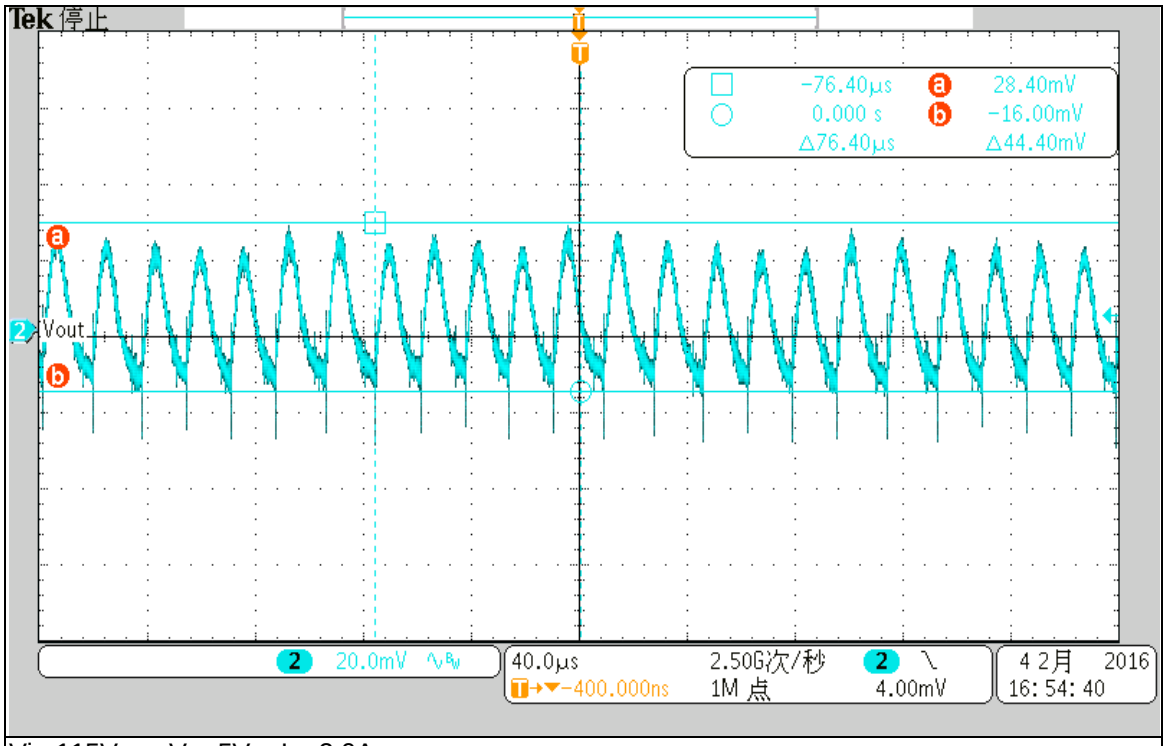
Vin:115Vac Vo=5V Io: 0.5A



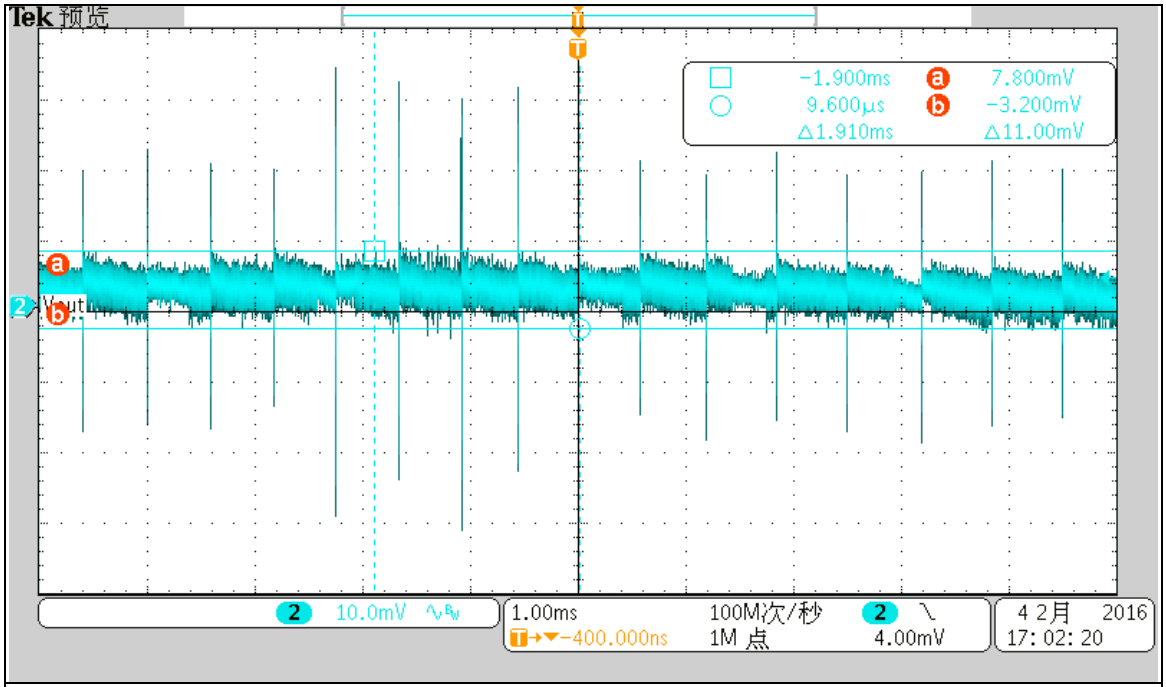
Vin:115Vac Vo=5V Io: 1A



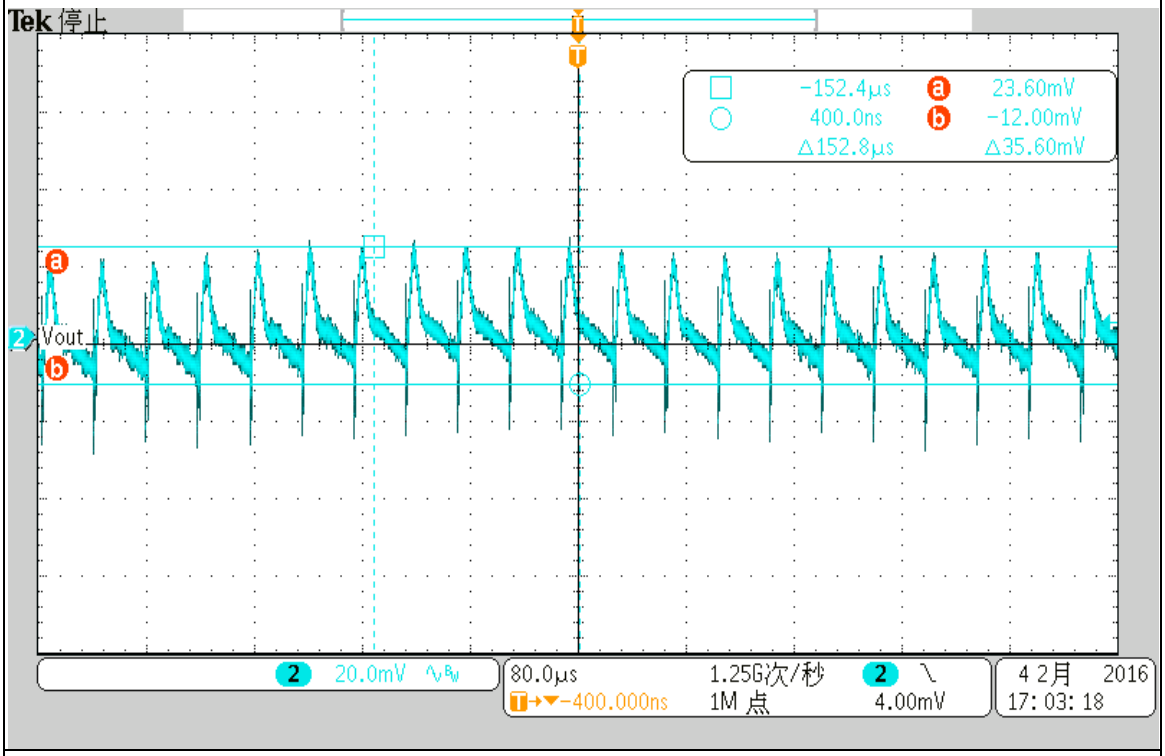
Vin:115Vac Vo=5V Io: 1.5A



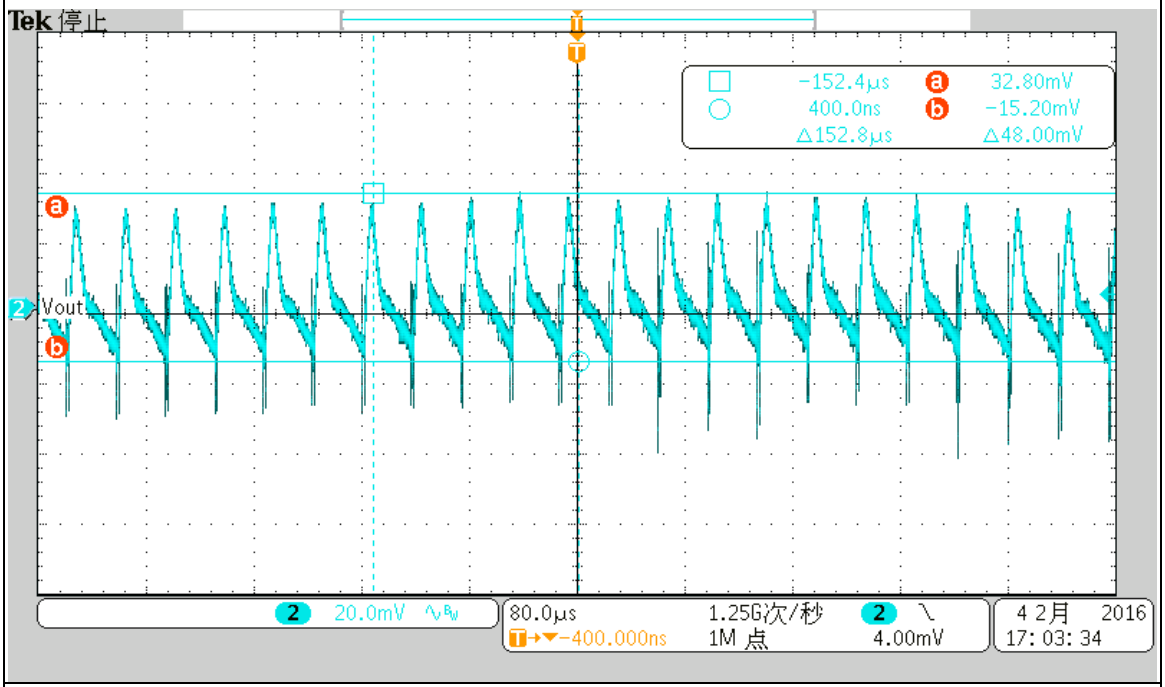
Vin:115Vac Vo=5V Io: 2.0A



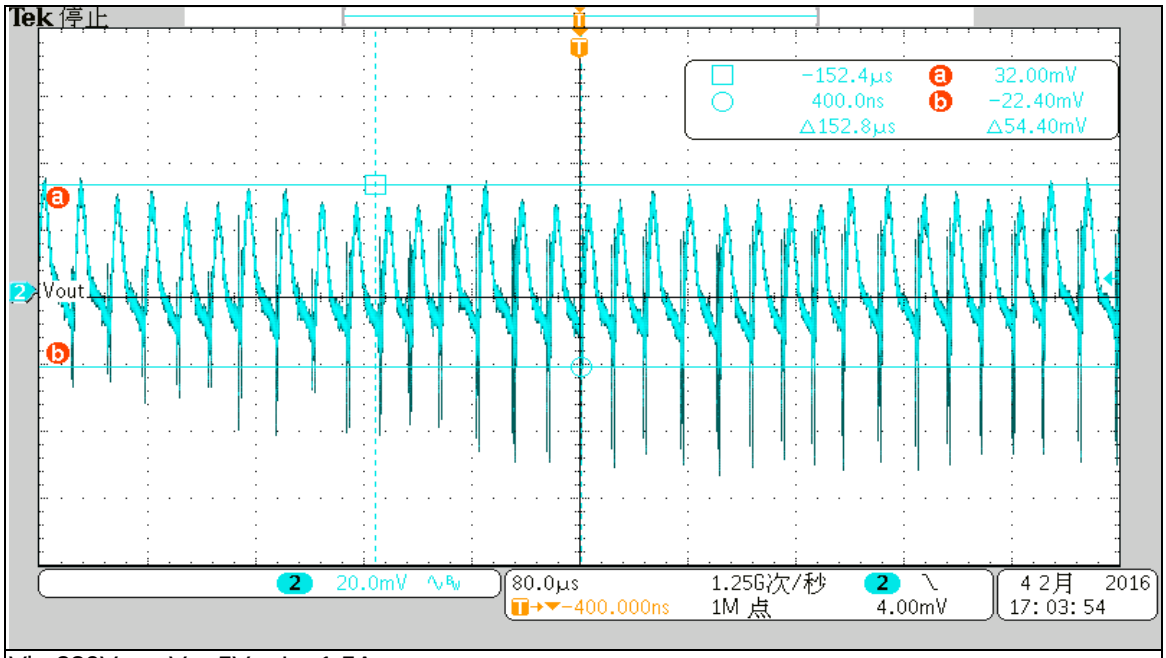
Vin:230Vac Vo=5V Io: No Load



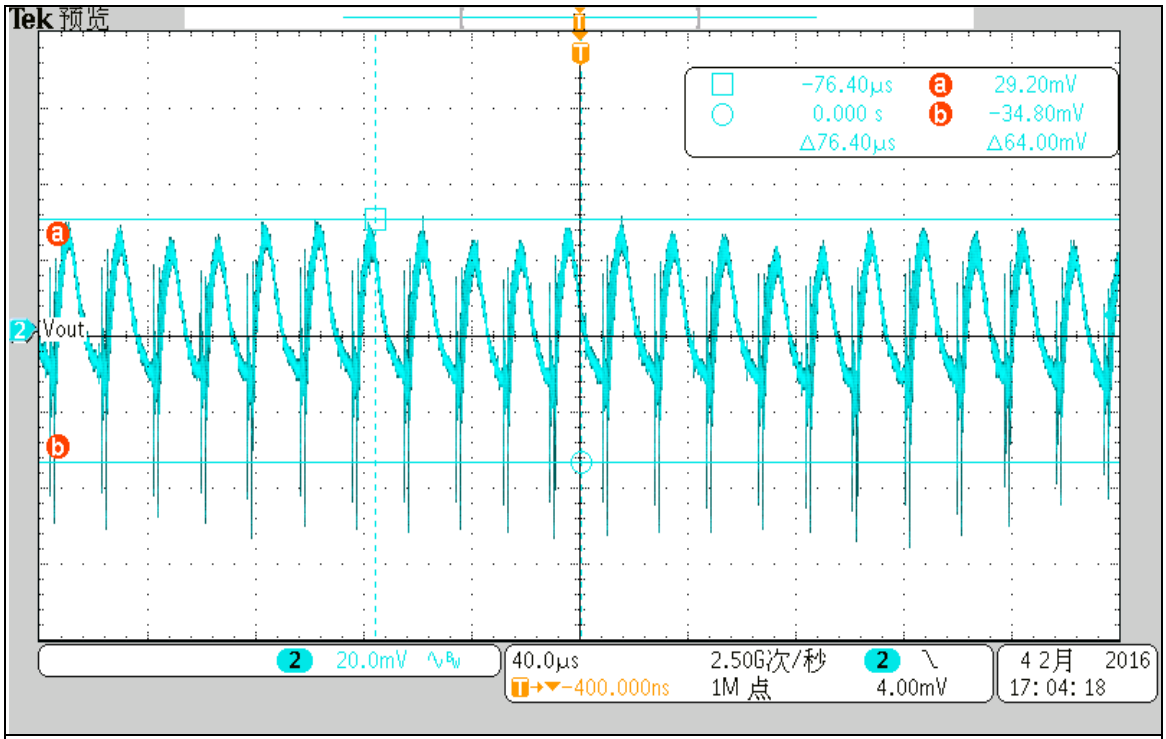
Vin:230Vac Vo=5V Io: 0.5A



Vin:230Vac Vo=5V Io: 1.0A

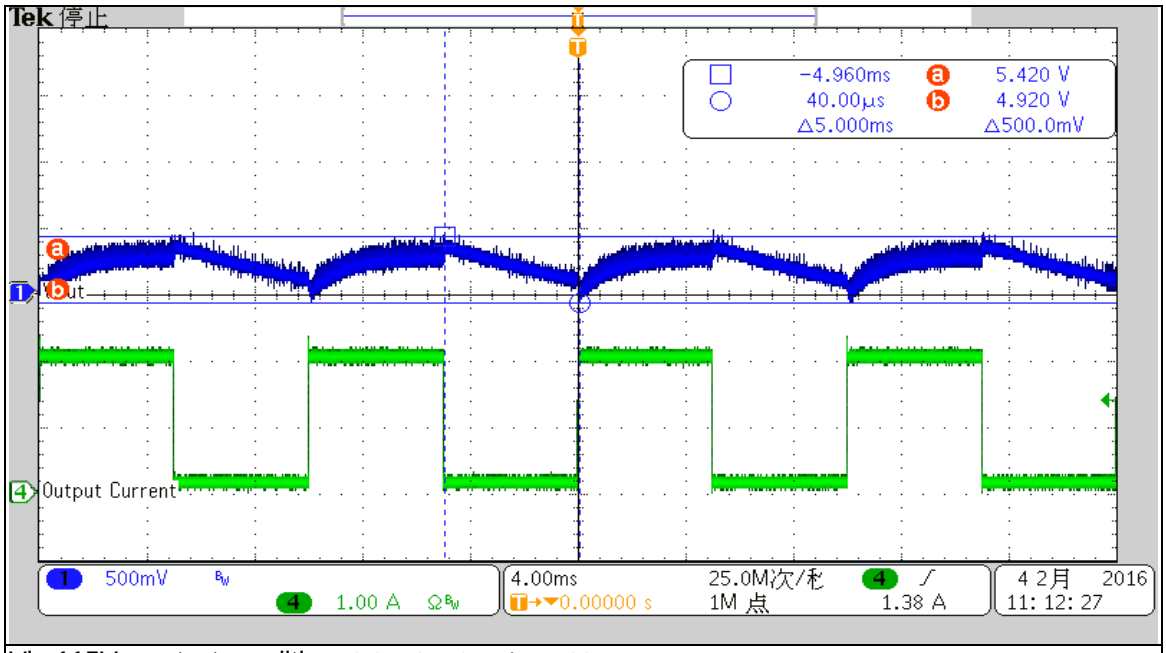


Vin:230Vac Vo=5V Io: 1.5A

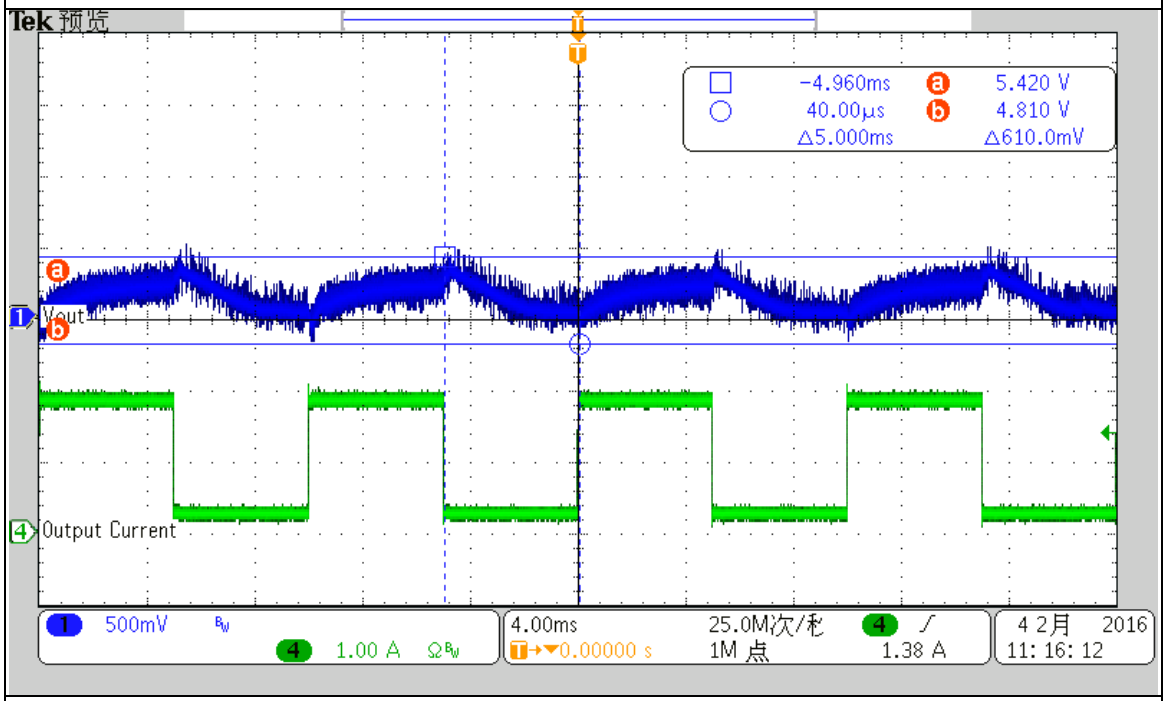


Vin:230Vac Vo=5V Io: 2.0A

3.4 DYNAMIC RESPONSE

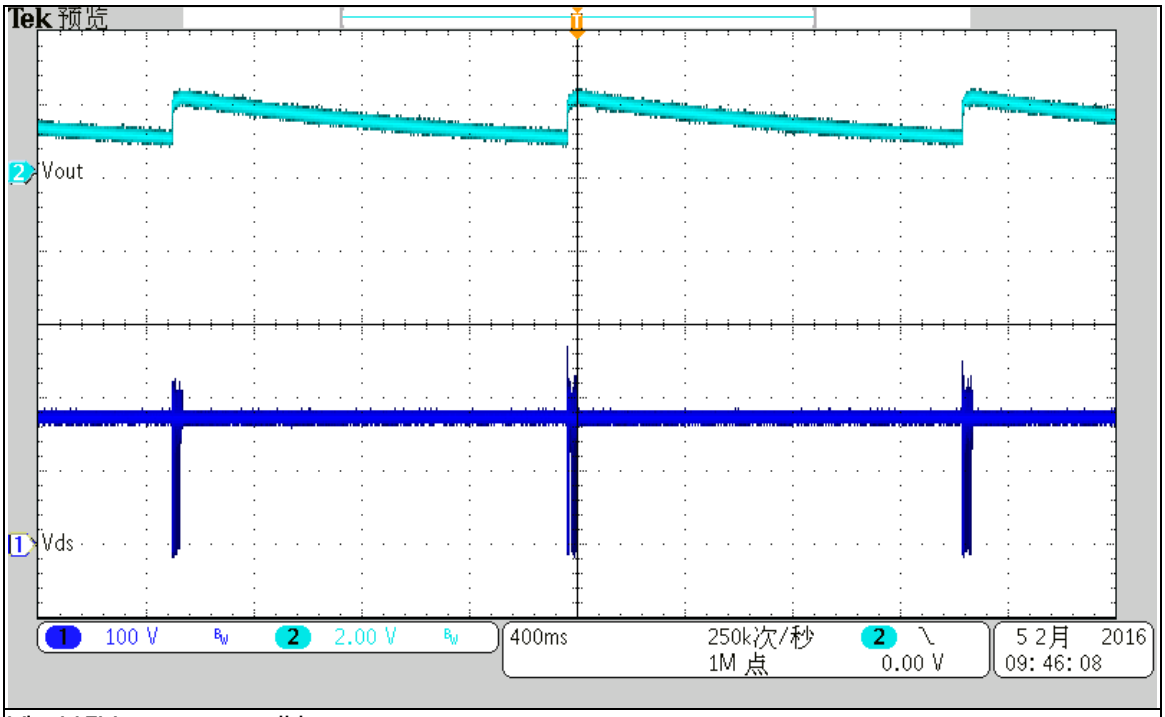


Vin:115Vac test condition: 0.2-1.8A, 0.4A/us, 100Hz

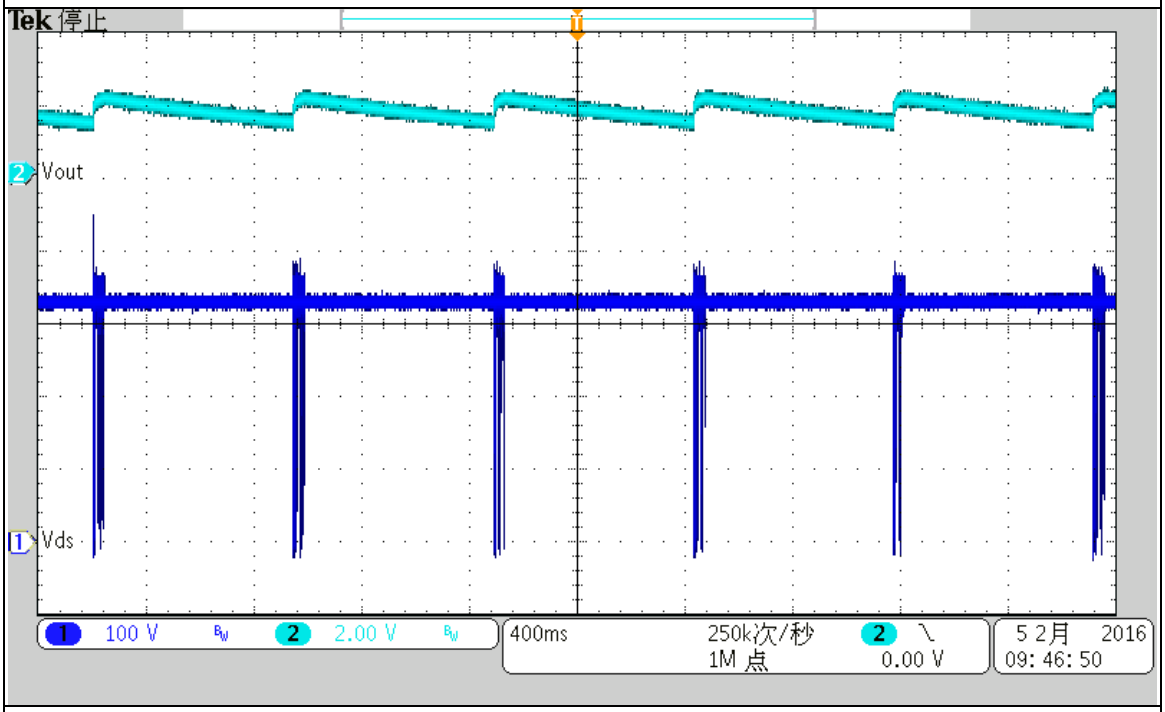


Vin:230Vac test condition: 0.2-1.8A, 0.4A/us, 100Hz

3.5 OUTPUT VOLTAGE PROTECTION

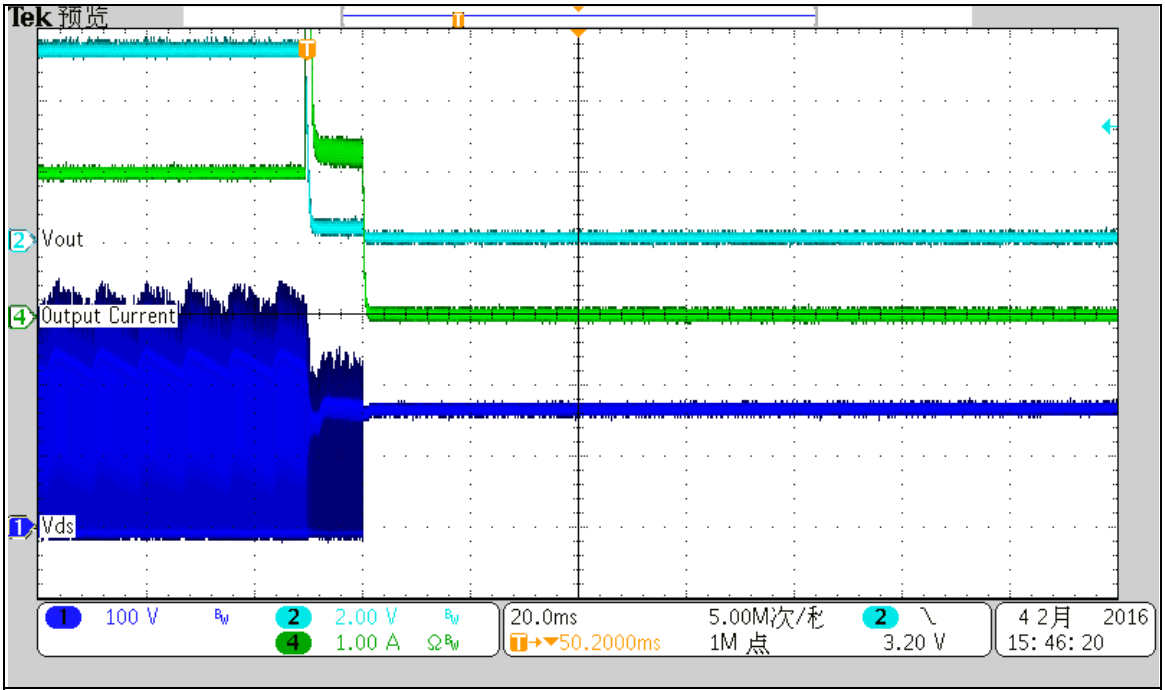


Vin:115Vac test condition: VS pin down resistor open

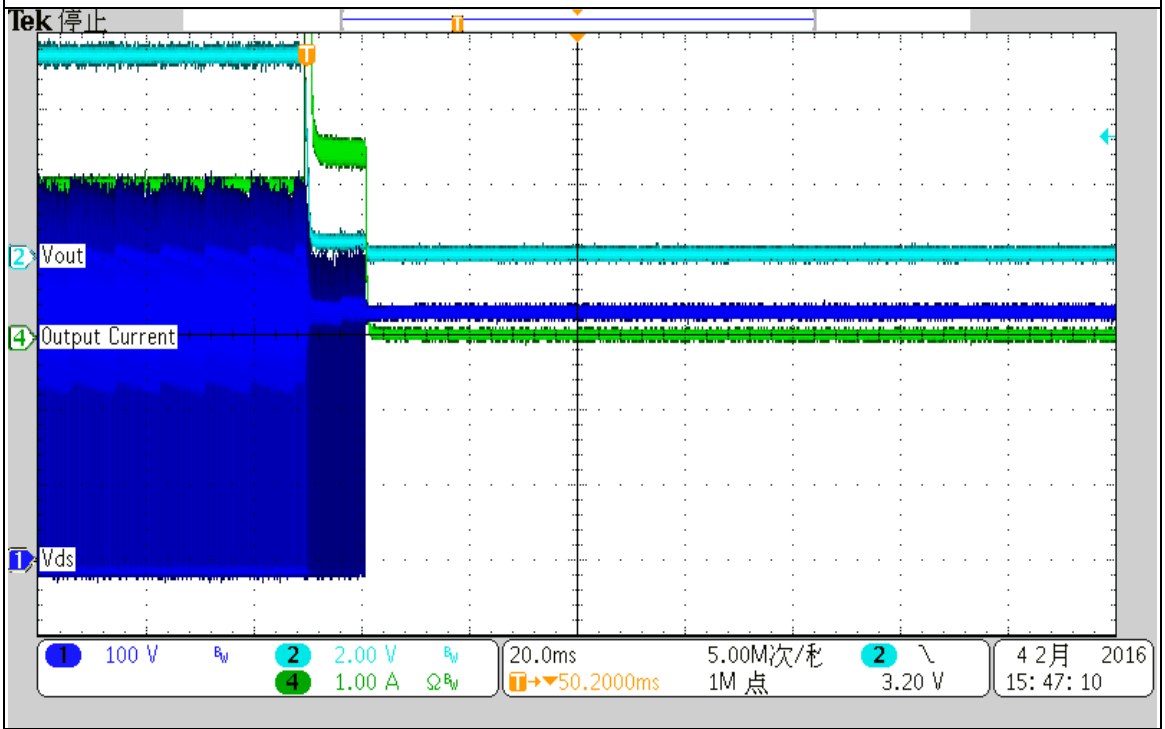


Vin:230Vac test condition: VS pin down resistor open

3.6 OUTPUT SHORT PROTECTION

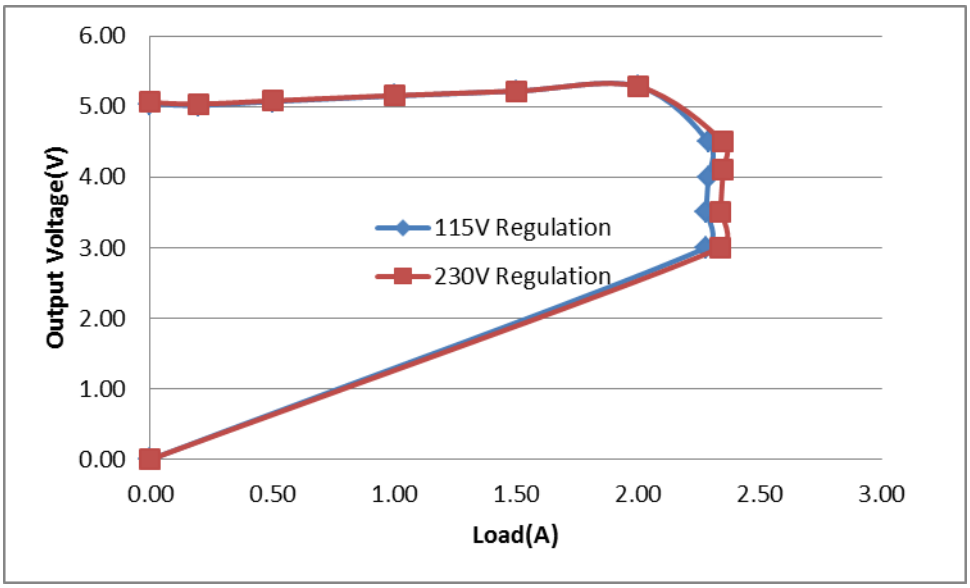


Vin:115Vac



Vin:230Vac

4 IV CURVE


6.00
5.00
4.00
3.00
2.00
1.00
0.00
Output Voltage(V)
115V Regulation
230V Regulation
0.00
0.50
1.00
1.50
2.00
2.50
3.00
Load(A)

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