

**AT8222C 120VAC / 10W**

**LED可控硅调光驱动方案**

# 特色

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Fit Most of Dimmer

without flicker

No Bleeder

High PF > 0.9

High Efficiency > 86%

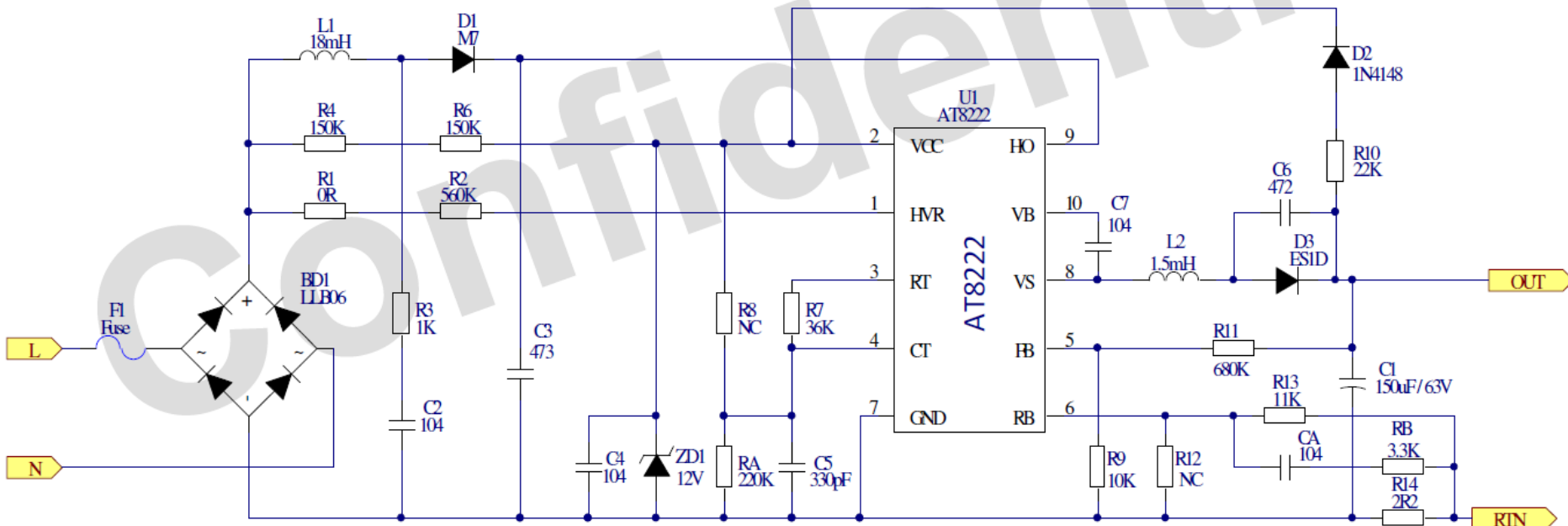
Dim to < 5% light

No EMI solution inquiry

# 基本架构

## Innovation Method for LED dimming control

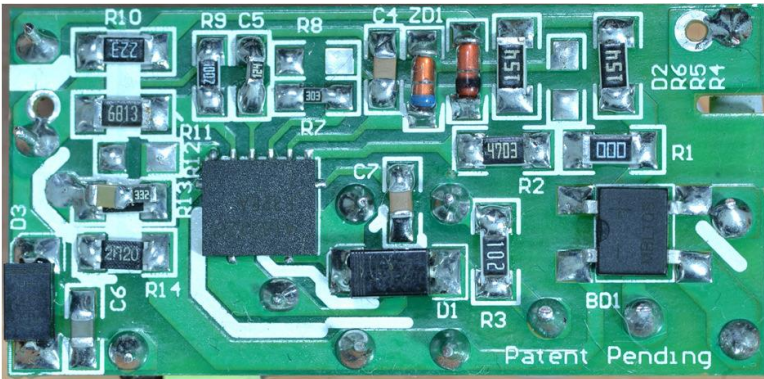
- Energy stored in PFC inductor and Output Capacitor
- Fixed Duty during dimming condition
- Integrated MOSFET



# 驱动电源BOM



**PCB : 40mm x 19mm**

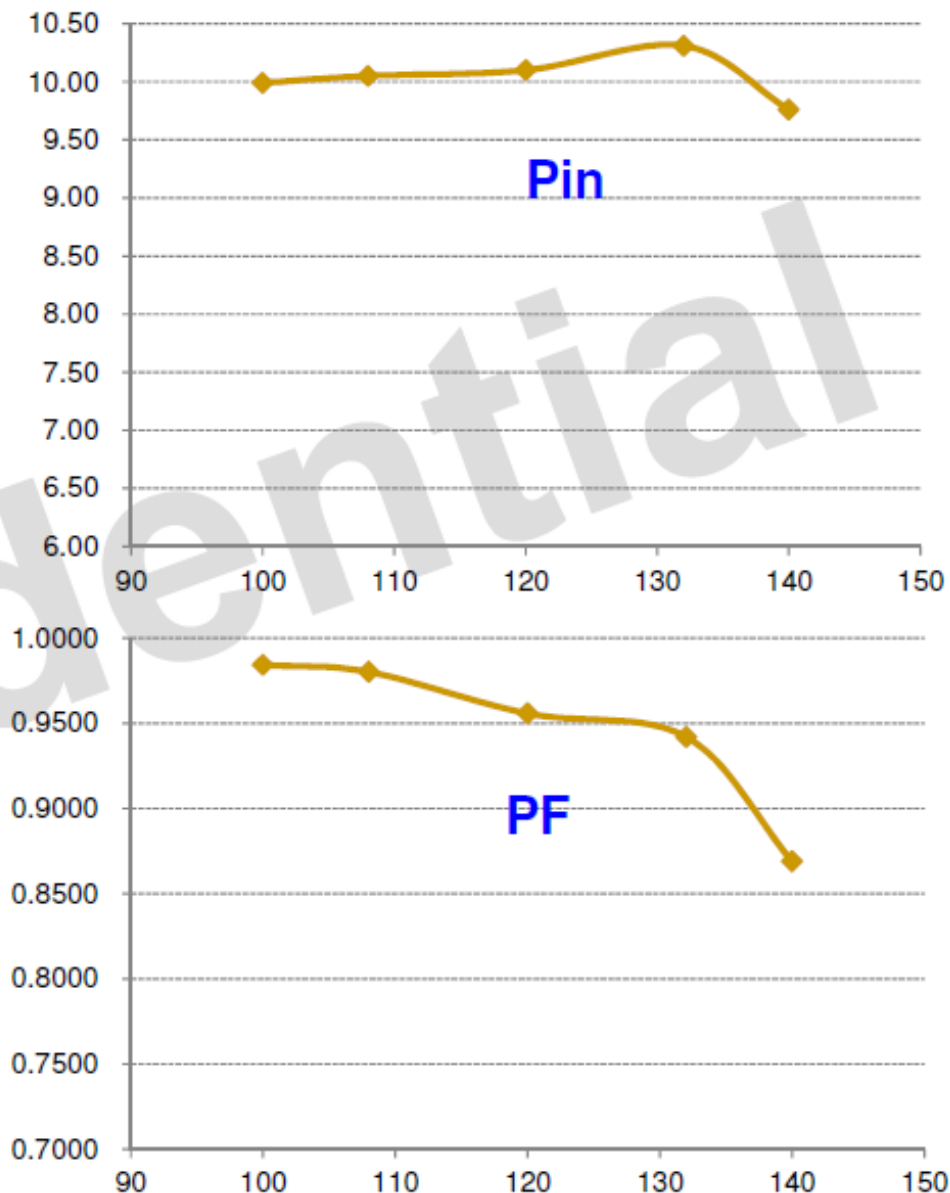
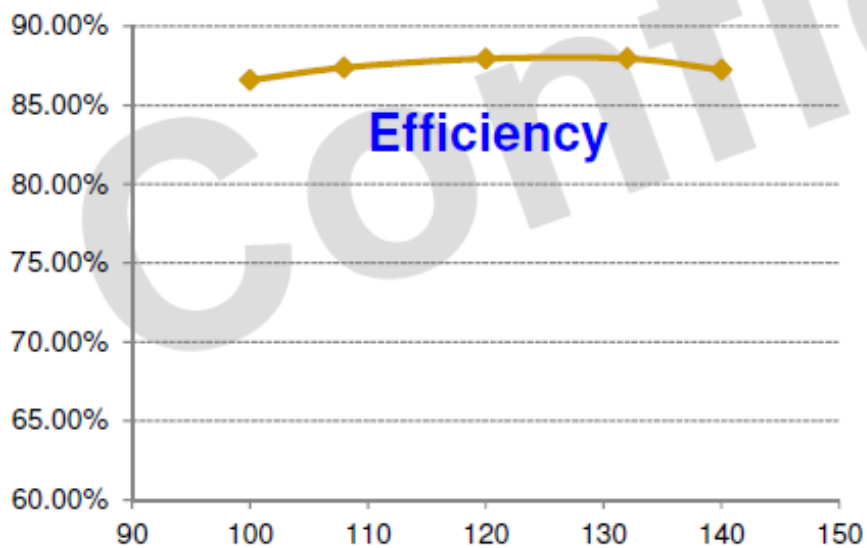


Designator	Comment	Description
BD1	LLB06	1A / 600V / SMD
C1	150uF / 63V	63V / 电解电容
C2	104	250V / CL21
C3	473	250V / CL21
C4, C7, CA	104	16V / X7R / 0805 / 贴片电容
C5	330pF	16V / NPO / 0805 / 贴片电容
C6	472	250V / X7R / 0805 / 贴片电容
D1	M7	1A General Purpose Diode
D2	1N4148	Small Signal Diode
D3	ES1D	Ultra Fast Diode
F1	Fuse	10 Ohm Resistor
L1	18mH	0912 / 0.12mm / 700T
L2	1.5mH	EE10 / PC40 / 0.2mm / 230T
R1	0 ohm	1206 / 5% / 贴片电阻
R2	560K	1206 / 1% / 贴片电阻
R3	1K	1206 / 5% / 贴片电阻
R4,R6	150K	1206 / 5% / 贴片电阻
R7	36K	0805 / 1% / 贴片电阻
R9	10K	0805 / 1% / 贴片电阻
R10	22K	1206 / 5% / 贴片电阻
R11	680K	1206 / 1% / 贴片电阻
R13	11K	0805 / 1% / 贴片电阻
R14	2.2 ohm	1206 / 1% / 贴片电阻
RA	220K	0805 / 1% / 贴片电阻
RB	3.3K	0805 / 1% / 贴片电阻
U1	AT8222C	LED Dimming Controller
ZD1	12V	0.5W Zenor Diode
PCB		40mm x 19mm

# 驱动电源性能实际测试

## AT8222 Test Result

V	P <sub>IN</sub> (W)	V <sub>OUT</sub> (V)	I <sub>OUT</sub> (A)	P <sub>OUT</sub> (W)	η (%)	PF
100	9.99	60.57	0.1428	8.65	86.58%	0.9843
108	10.05	60.73	0.1446	8.78	87.38%	0.9802
120	10.10	60.88	0.1459	8.88	87.94%	0.9558
132	10.31	60.82	0.1491	9.07	87.96%	0.9420
140	9.76	60.56	0.1406	8.51	87.24%	0.8689



# 驱动电源与可控硅调光器

## Triac Dimmer List

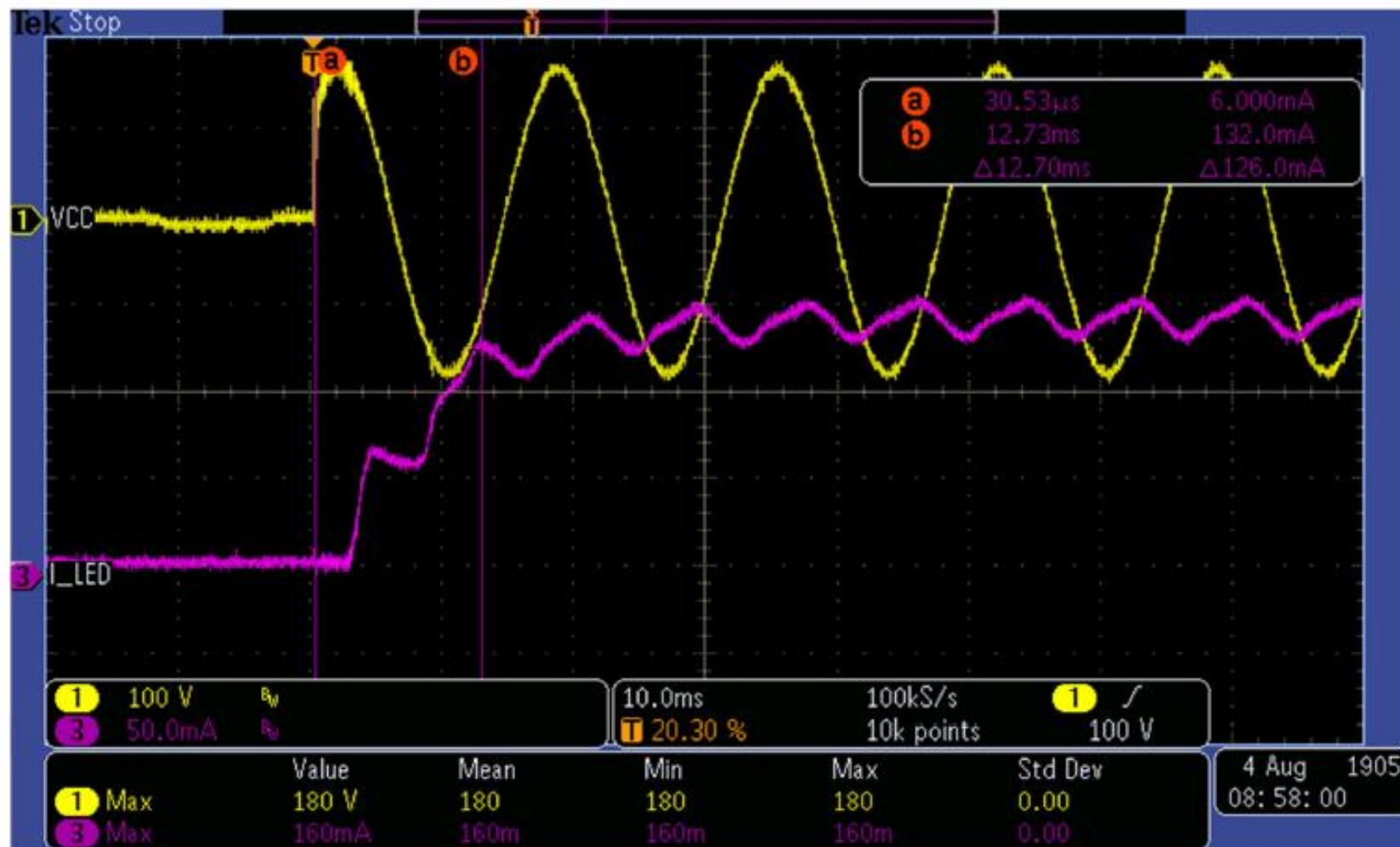
Brand	Model	PIN (Watts)	Dimming Range (Watts)	Current Range (mA)	Pout min (%)	Flicking situation	Vout (V)	Iout (mA)	POUT (Watts)	Efficiency (%)	PF
Lutron	DV-600P	9.58	0.35	0.06	3.47%	NO	59.83	134.9	8.07	84.25%	0.8774
Lutron	MACL-153M	9.19	0.65	5.58	6.44%	NO	59.73	130.4	7.79	84.75%	0.8505
Lutron	DVLV-600P	9.65	0.47	0.5	4.65%	NO	59.95	135.3	8.11	84.05%	0.8816
Lutron	TG-600PNL	9.69	0.55	1.92	5.45%	NO	60.47	135.6	8.20	84.62%	0.8842
Lutron	SLV-600P	9.66	0.35	0.05	3.47%	NO	60.32	135.7	8.19	84.74%	0.8828
Lutron	TGCL-153P	9.73	0.87	5.99	8.61%	NO	59.67	137.3	8.19	84.20%	0.8805
Lutron	SLV-600P	9.66	0.35	0.005	3.47%	NO	60.32	135.7	8.19	84.74%	0.8828
Leviton	6674	9.82	0.98	6.1	9.7%	NO	60.27	136.6	8.23	83.84%	0.8966
Leviton	6631	9.97	0.26	0.004	2.57%	NO	60.30	141.4	8.53	85.52%	0.8915
Leviton	6673P	9.80	0.69	5.2	6.83%	NO	60.12	138.6	8.33	85.03%	0.8917
Leviton	6633-P	10.08	0.24	0.003	2.37%	NO	60.30	144.7	8.73	86.56%	0.9380

Note:  $V_{in} = 120V_{ac}$

$P_{in} = 10.1W$  &  $PF = 0.956$  without dimmer connection

# 启动时间

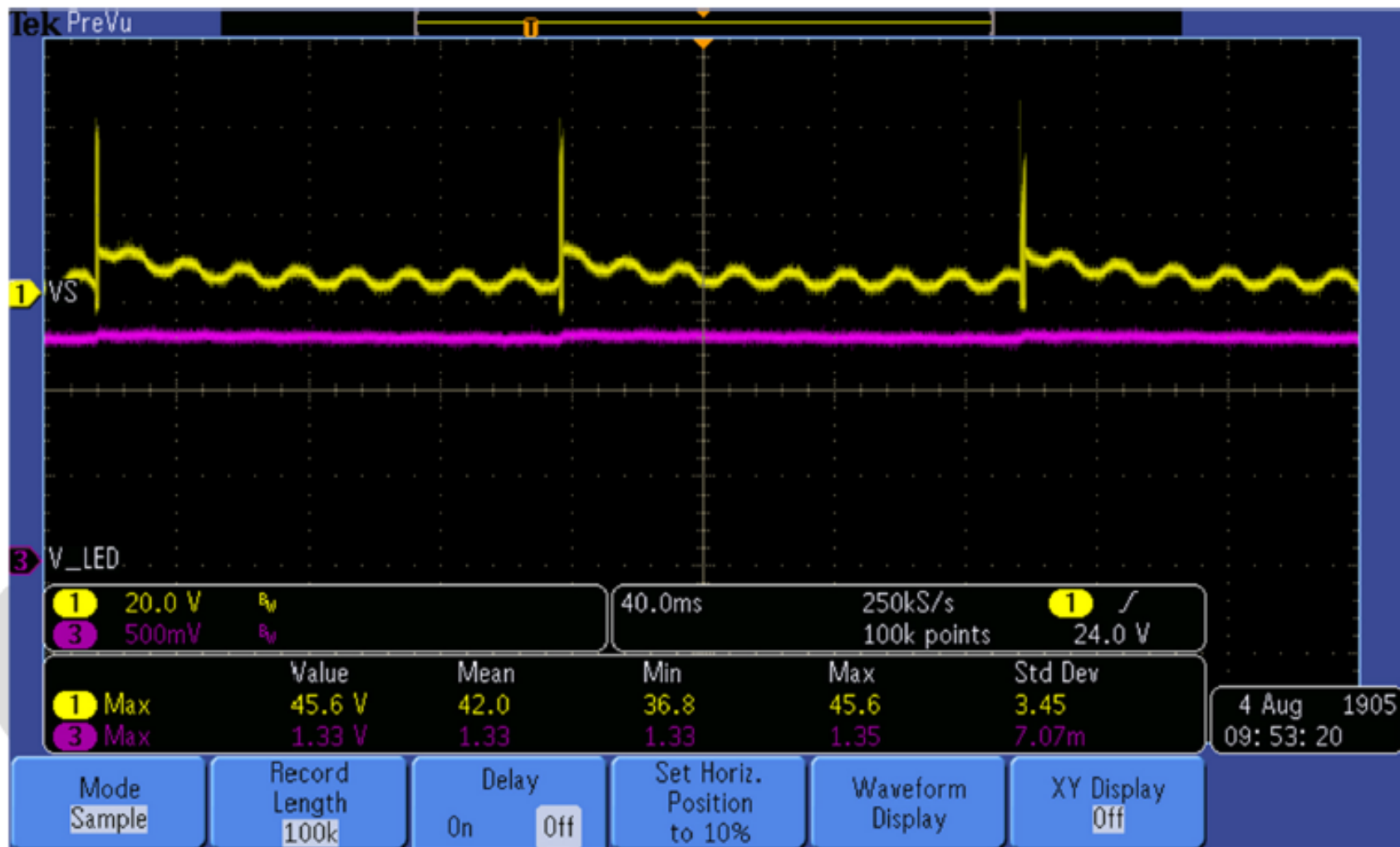
## System Start up during 12.7ms



CH1 (Yellow): AC input; CH3 (Purple): LED Current

# OVT保护

## System in Hiccup Mode When OVP triggered



CH1 (Yellow): VS; CH3 (Purple): VOUT