



MOLE SEMI

高PF_DOB应急灯M9036解决方案

应急灯解决方案 Test Report

Designer: JIAOXUEYOU



Time	Action/Modification History
2020-09-20	Initial Version
...	...

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- Rev History and Check List
- Test Condition and Circuit
- Bill of Materials
- Room Temperature Evaluation (AC Test)
- Application Specification
- Typical Perform A CE Characteristics
- Appendix

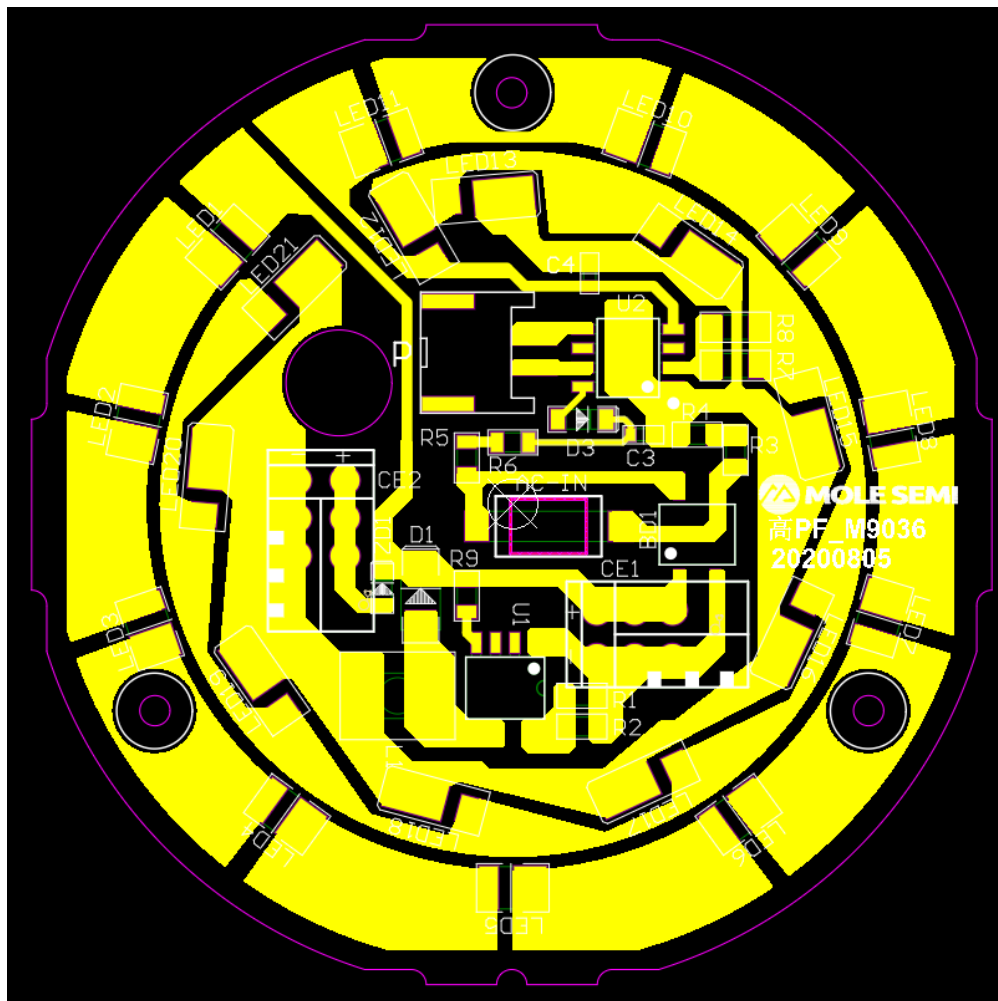


实验原理图



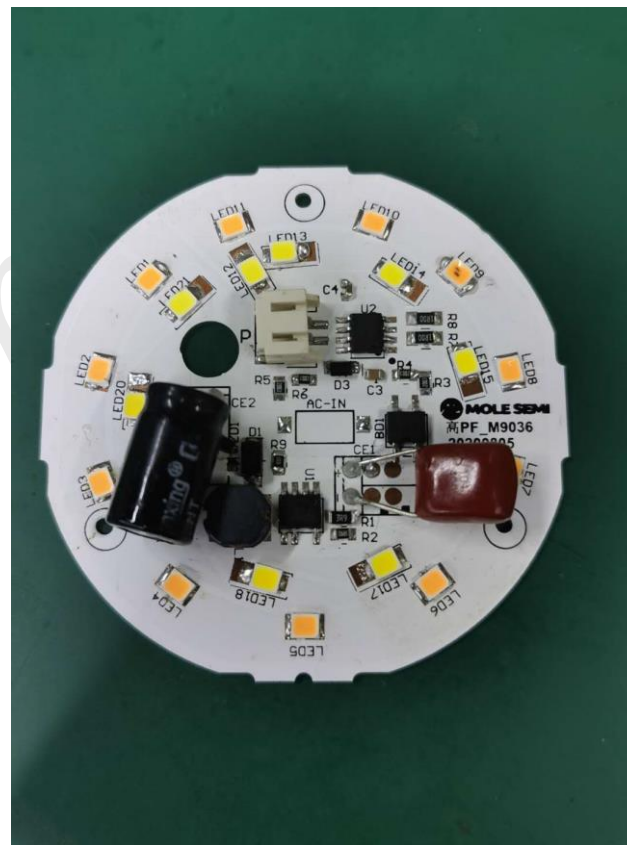


➤ Layout



➤ 实验设备 & 实物图

序号	设备名称	设备编号
1	直流电源	GPD-3303S
2	模拟电池	ASD906A
3	示波器	MDO3014
4	电子负载	IT8511
5	万用表	FLUKE15B+





➤ 物料清单

Footprint	Comment	LibRef	Designator	Description	Quantity
	3.7V	Pro1A.tmp_6V_7	BAT		1
D-BRIDGE-C	MB10F	D(B-DIODE)	BD1	DIODE	1
1608	223	C	C3	CAPACITOR	1
1608	105	C	C4	CAPACITOR	1
CBB	0.1uF/400V	C(DIP)	CE1	CAPACITOR	1
C-5.5/10.0L	68uF/100V	C(DIP)	CE2	CAPACITOR	1
SMA	ES1J	D(DIODE)	D1	DIODE	1
SOD123	A7	D(DIODE)	D2	DIODE	1
L-6.0	162	L(IND)	L1	INDUCTOR	1
LED-3528	D(LED)	D(LED)	LED1, LED2, LED3, LED4, LED5, LED6, LED7, LED8, LED9, LED10, LED11	LED	11
LED-5630	D(LED)	D(LED)	LED12, LED13, LED14, LED15, LED16, LED17, LED18, LED19, LED20, LED21	LED	10
0805	3R9	R	R1, R2	RESISTOR	2
0805	2003	R	R3, R4, R5, R6	RESISTOR	4
1206	1R0	R	R7	RESISTOR	1
0805	1R0	R	R8	RESISTOR	1
0805	10K	R	R9	RESISTOR	1
SOP8	IC(JW1967-7P)	IC(JW1967-7P)	U1	IC	1
SOP8N	IC(M9036-8P)	IC(9031-8P)_1	U2	IC	1
SOD323	4.7V	D(ZENER)	ZD1	DIODE	1
					42



Description	Symbol	Min	Typ	Max	Unit	Comment
Input						
Voltage	V _{in}	90	220	264	V _{ac}	
Power	P _{in}		9		W	
Power factor	PF		0.9			
AC Output						
LED Voltage	V _{LED}		72		V	
LED current	I _{LED}		100		mA	
DC Output						
LED Voltage	V _{LED}		3		V	
LED current	I _{LED}		500		mA	



➤ 效率测试（不带电池测试）

输入电压（V）	输入功率（W）	输出电压（V）	输出电流（mA）	输出功率（W）	效率（%）	功率因数
90	7.65	70.0	103	7.21	94.25%	0.934
110	7.78	69.8	105	7.33	94.20%	0.966
130	7.87	69.7	105	7.32	92.99%	0.974
150	7.83	69.6	105	7.31	93.33%	0.975
170	7.81	69.4	105	7.29	93.30%	0.971
190	7.73	69.3	105	7.28	94.13%	0.967
220	7.75	69.2	107	7.40	95.54%	0.959
240	7.79	69.2	107	7.40	95.05%	0.951
264	7.93	69.3	109	7.55	95.25%	0.943
90	7.65	70.0	103	7.21	94.25%	0.934



➤ 效率测试（带电池测试3.6V）

输入电压（V）	输入功率（W）	输出电压（V）	输出电流（mA）	输出功率（W）	效率（%）	功率因数
90	7.32	68.1	104	7.08	96.75%	0.939
110	7.51	68.0	109	7.41	98.70%	0.969
130	7.62	68.1	110	7.49	98.31%	0.975
150	7.60	68.0	111	7.55	99.32%	0.975
170	7.60	68.1	110	7.49	98.57%	0.971
190	7.62	68.1	111	7.56	99.20%	0.966
220	7.69	68.1	112	7.63	99.18%	0.959
240	7.75	68.1	111	7.56	97.54%	0.951
264	7.85	68.1	112	7.63	97.16%	0.942
90	7.32	68.1	104	7.08	96.75%	0.939



Thanks

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