



DC APPLICATION  
SYNC RGB LED IC

用于 DC 应用  
同步三色灯 LED IC

LED FLASH	
M1359L/E	

FEATURES 功能叙述

\* **M1359L**

- Pairs with M1359E controller.
- Operation mode: 16 modes.
- Constant sink current 15mA (Typ.) per LED outputs.
- Outputs directly drive LED.
- Supply hot plugging.
- Automatic synchronous a LEDs.
- 2 pin LED Lamp — suffix - lamp

APPLICATION 产品应用

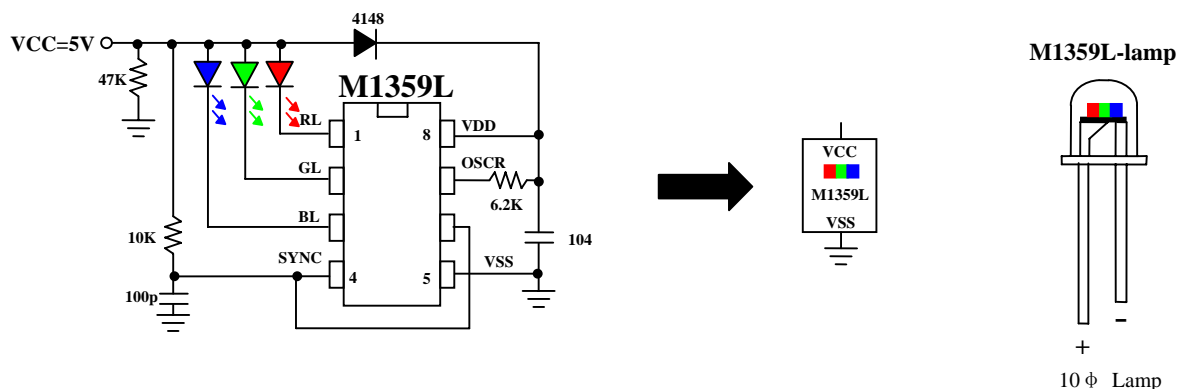
- LED color mixer lamp etc...

ELECTRICAL CHARACTERISTICS 电气规格

( @V<sub>DD</sub>=5V unless otherwise specified )

Characteristics	Sym.	Min.	Typ.	Max.	Unit	REMARKS
工作电压 Operating Voltage	V <sub>DD</sub>	2.4	5	5.5	V	
工作电流 Operating Current	I <sub>OP</sub>	—	1	—	mA	No load
推动电流 Driving Sink Current	I <sub>OL</sub>	—	15	—	mA	@V <sub>DS</sub> = 1.2V (RL,GL,BL)
振荡频率 Oscillator Frequency	F <sub>OSC</sub>	—	4	—	MHz	± 10% TOL, R <sub>osc</sub> =6.2K Ω
工作温度 Operating Temperature	Temp.	0	25	70	°C	

APPLICATION DIAGRAM 参考电路图



\*All specs and applications shown above subject to change without prior notice.

( 以上电路及规格仅供参考,本公司得行修正 )



一华半导体股份有限公司  
MOSDESIGN SEMICONDUCTOR CORP.

“Patented ( 已获专利保护 )”

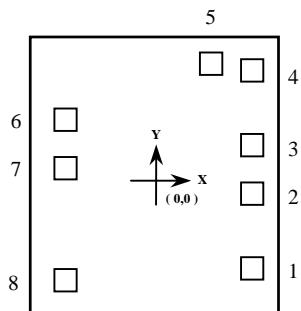
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**PAD ASSIGNMENT & POSITION**



UNIT : um

No.	NAME	X	Y
1	RL	440.3	-440.6
2	GL	440.3	-113.0
3	BL	440.3	-110.2
4	SYNC	440.3	437.8
5	VSS	254.9	472.6
6	TCK	-399.8	233.8
7	OSCR	-399.8	-1.8
8	VDD	-399.8	-490.5

\* CHIP SIZE ~ 1.12 X 1.23 mm<sup>2</sup>

\* IC substrate should be connected to VSS in PCB (PCB 上 IC 必须接 VSS)

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FEATURES 功能叙述

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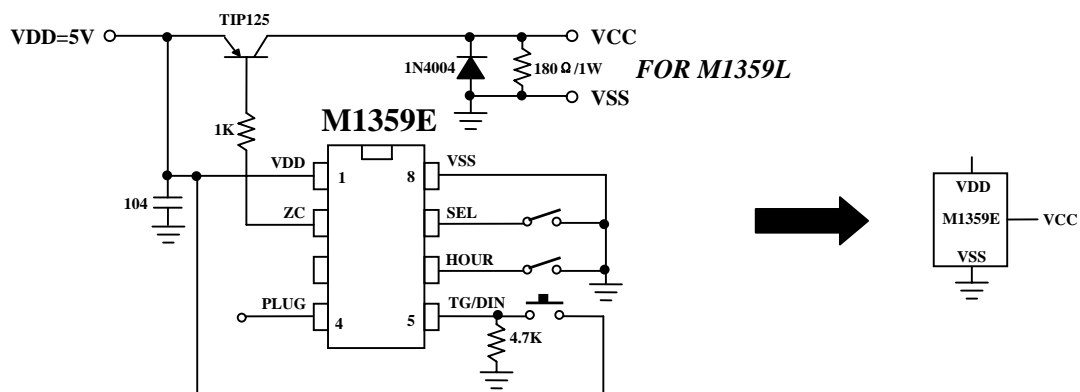
- TG/DIN Key:
  - TG: ON/OFF, Mode sequence trigger key, Push switch  $\geq 2$ sec power off
  - DIN: Serial information input pin from an RF or an IR receiver, Pairs with M3162/M3162-IR & M3172.
- Hour: timer select ; "VSS" = 8 hours ON, 16 hours OFF
- SEL: Function select ; "VSS" = 8 functions (Mode 1~8), "open" = 16 functions (Mode 1~16). Refer to table 1.
- PLUG: Link the more LED lighting network synchronous input pin, hot plugging, Active Low.
- LED Flashing pattern programming by M1359E controller.

ELECTRICAL CHARACTERISTICS 电气规格

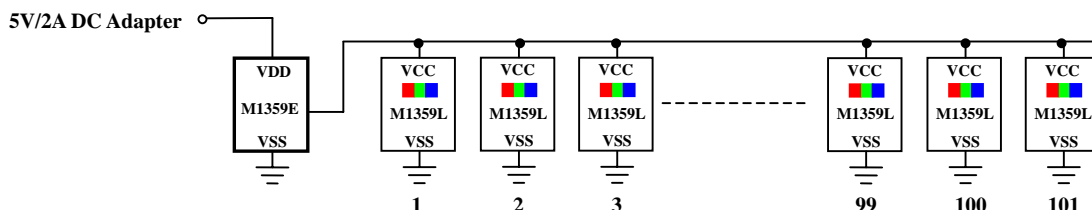
( @V<sub>DD</sub>=5V unless otherwise specified )

Characteristics	Sym.	Min.	Typ.	Max.	Unit	REMARKS
工作电压 Operating Voltage	V <sub>DD</sub>	2.4	5	5.5	V	
工作电流 Operating Current	I <sub>OP</sub>	—	1	—	mA	No load
推动电流 Driving Sink Current	I <sub>OL</sub>	15	—	—	mA	@V <sub>DS</sub> = 1.2V
推动电流 Driving Source Current	I <sub>Oh</sub>	20	—	—	mA	@V <sub>SD</sub> = 1.2V
振荡频率 Oscillator Frequency	F <sub>OSC</sub>	—	4	—	MHz	$\pm 20\%$ TOL. Built-in Rosc
工作温度 Operating Temperature	Temp.	0	25	70	°C	

APPLICATION DIAGRAM 参考电路图



Pairs with 101 pcs M1359L application diagram

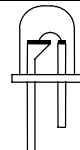


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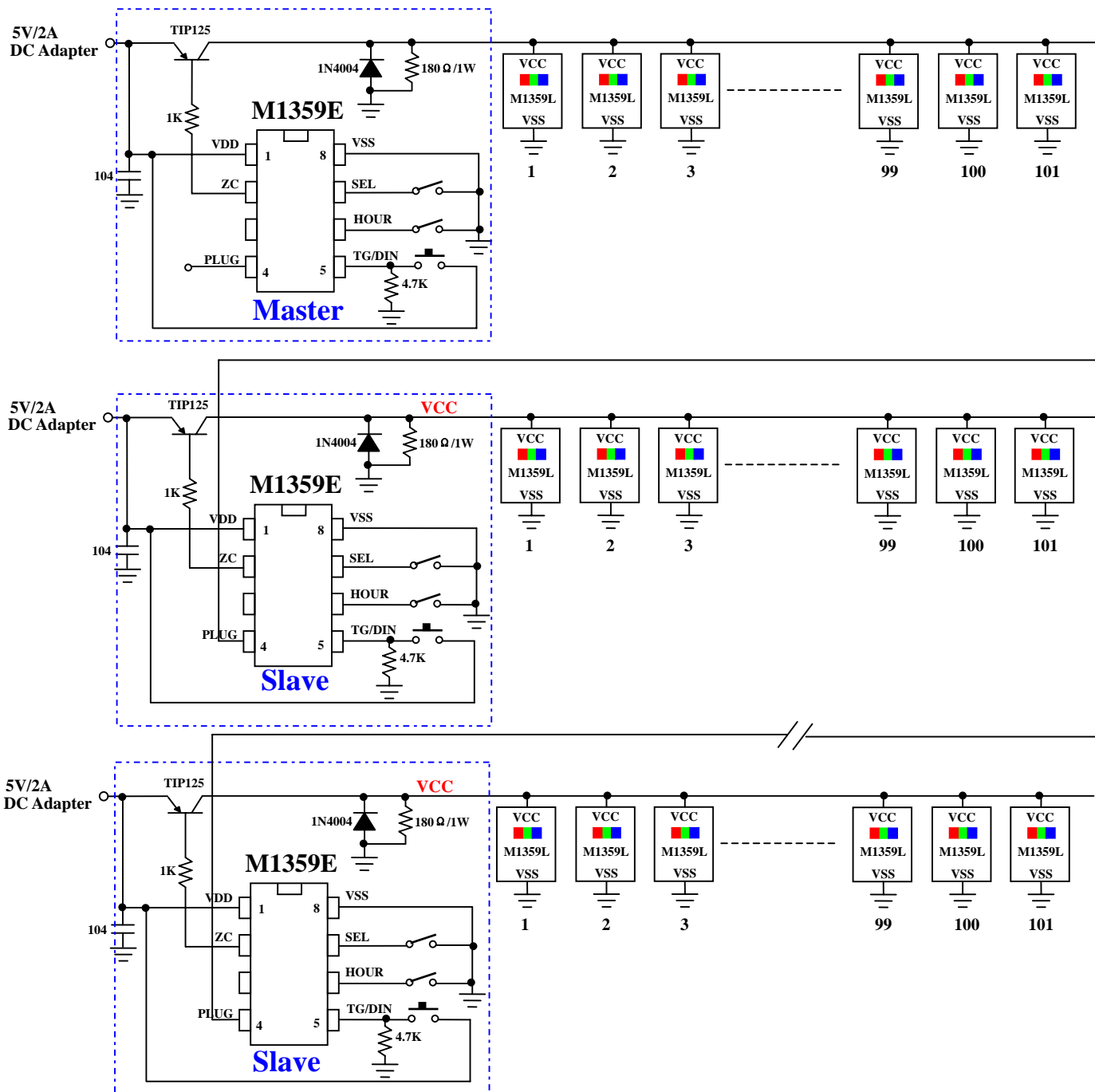


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Up to more LED lighting network synchronous application diagram



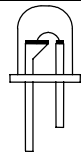
Note: The PLUG pin is an input pin to a peer-to-peer master controller clock synchronization.

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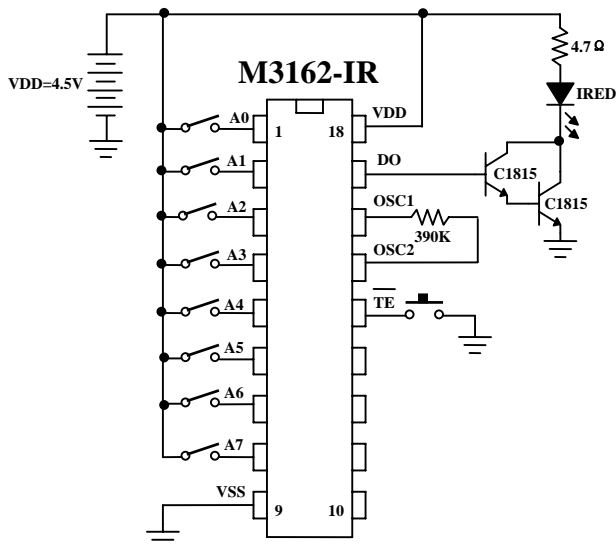
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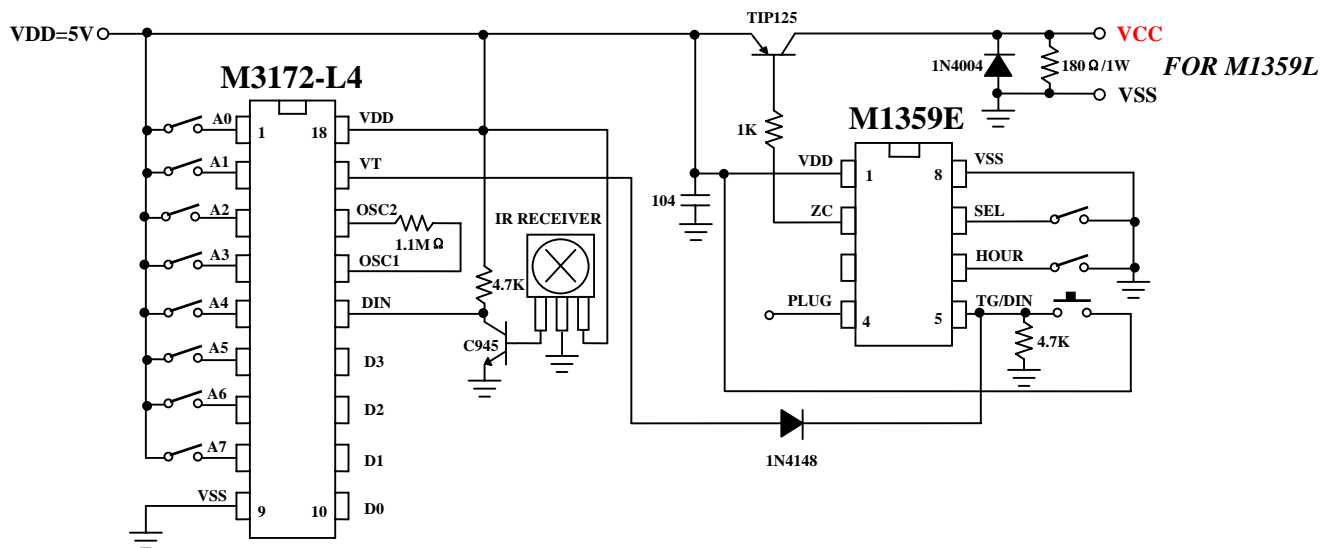
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### REMOTE CONTROLLER

#### Infrared Transfer Application Circuit



#### Receiver Application Circuit



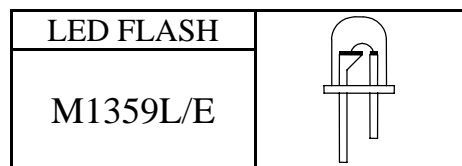
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**M1359E MODE FORMAT (Table 1)**

MODE	FUNCTIONS	功能
1	Combination mode from 2 to 8	第 2 段到第 8 段自动连续变换各段
2	Multi-color flashing stars	多色星星闪烁
3	8-color flash; 2 speed	8 色跳依序闪; 2 种速度
4	8- color gradually darkening; 2 speed	8 色渐明渐暗; 2 种速度
5	8 colors flash+ gradually darkening ; 2 speed	8 色跳依序闪 + 8 色渐明渐暗; 2 种速度
6	White light gradually→ Gradually eliminate the Green→ Gradually eliminate the blue→ Gradually eliminate red	白色渐亮后→绿色渐灭→蓝色渐灭→红色渐灭 循环
7	Red light gradually→ Green light gradually→ Blue light gradually→ White out gradually	红色渐亮→绿色渐亮→蓝色渐亮→白色渐灭 循环
8	White, blue flashing alternately, The speed of change (fast →middle→slow→middle→fast)	白、蓝色交替闪, 速度变化 (快→中→慢→中→快)
9	Combination mode from 10 to 15	第 10 段到第 15 段自动连续变换各段
10	Purple, blue, orange flash alternately , The speed of change (fast →middle→slow→middle→fast)	紫、蓝、橙色交替闪速度变化 (快→中→慢→中→快)
11	flashing stars + White and blue flash alternately	星星闪烁+白、蓝色交替闪
12	(Red, green)flash alternately +(purple, blue) flash alternately	(红、绿)交替跳闪 后接 (紫、蓝)色交替跳闪
13	(White, Red)flash alternately +(green, purple) flash alternately	(白、红)交替跳闪 后接 (绿、紫)色交替跳闪
14	Orange and blue)flash alternately→ 8-color flash→ (Yellow, indigo) flash alternately	(橙、蓝)交替跳闪后接 8 色跳闪接(黄、靛)交替跳闪
15	(Blue, green, red and white) were gradually bright colors followed by gradually eliminate, the speed of change (fast →middle→slow→middle→fast)	(蓝、绿、红、白)色依序渐亮后接渐灭, 速度变化 (快→中→慢→中→快)
16	LED OFF	LED 全灭

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