



An IC Design Company

5F-14, No.12, Lane 609, Chung Hsin Rd., Sec.5, San Chung City,
Taipei Hsien, Taiwan
Tel. +886 2 2278 2001 +886 2 2278 4815
Fax +886 2 2999 5349
E-MAIL: service@songrock.com.tw

SongRock
TechnologyCorp.

2 & 1 channel LED Drive Controller

LD68021

SOP-8

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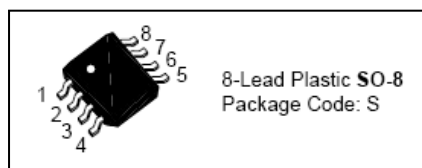
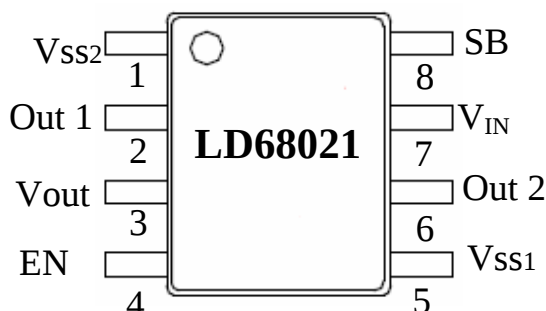
特色 OVERVIEW

- 2 個等電流輸出通道，內建調控輸出電流電路
- 可自由選擇驅動 1~2 組 LED
- 每個輸出通道最高電流可達 180mA max
- 一個備用信號驅動緩衝端，可驅動追加功率晶體
- 不需電感或蕭基二極體 (Schottky diode)
- 低消耗功率
- 內建電源管控線路
- 可升壓至 3.8V 供 1~3 WLED/BLED 點燈

應用 TYPICAL APPLICATION

- 太陽能 LED 庭園燈及其他太陽能電源控管應用
- 中功率 LED 控管照明
- 居家及車用 LED 照明
- 登山等專業級 LED 手電筒
- 運動器材、娛樂產品之 LED 照明應用

腳位圖 PIN LOCATION



PIN ASSIGNMENT

PIN Number	Symbol	Description
1	Vss2	一般用途接地；特殊用途另述。
2,6	Out1, Out2	LED 驅動輸出端
3	Vout	管控電壓輸出端
4	EN	輸出控制端
5	Vss1	接地
7	V _{IN}	電源工作電壓
8	SB	備用信號驅動緩衝端



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絕對最大額定值 ABSOLUTE MAXIMUM RATINGS

Parameter 參數	Symbol 符號	Min. 最小值	Max. 最大值	Unit 單位
DC Supply Voltage 電源工作電壓	V_{IN}	+2.4	+12	Vdc
Output Voltage 內振盪管壓電壓	V_{OUT}	+2.0	+12	Vdc
I_{OUT} Per Each Output Channel 驅動輸出電流值	I_{OUTN}	----	180	mA
Power Dissipation 消耗功率	P_D	----	4.5	W
Operating Temperature Range 操作溫度範圍	T_{OP}	-20	85	°C
Storage Temperature Range 儲存溫度範圍	T_{Stg}	-65	150	°C

電氣特性 ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$ ，若有特殊條件，會另外備註)

PARAMETER 參數	SYMBOL 符號	CONDITIONS 電氣條件	MIN 最小值	TYP 中心值	MAX 最大值	UNITS 單位
Operating Voltage 工作電壓	V_{IN}	Power Supply	2.4	4.5	12	Vdc
Output Voltage 振盪管壓電壓輸出	V_{out}	EN= Gnd	2.0	---	12	Vdc
			10	---	150	mA
Output Current per Channel 輸出電流	I_{OUT}	VDD=3.0V			40	mA
		VDD=4.5V	---	---	50	
		VDD=6.0V	---	---	90	
		VDD=9V	---	---	150	
		VDD=12V	---	---	180	
Oscillation Control Terminal 振盪輸出控制端	EN	When EN terminal is at V_{in} level, out1 and out2 is always cutoff.	---	$V_{in}-1$	V_{in}	V
		When EN terminal is at Gnd level, out1 and out2 will normally work in setting mode	0	$2/3V_{in}$	---	
Signal drive 備用信號驅動	SB	Amplitude= V_{out}	2.0	---	12	Vdc
		Frequency	32	50	100	KHz



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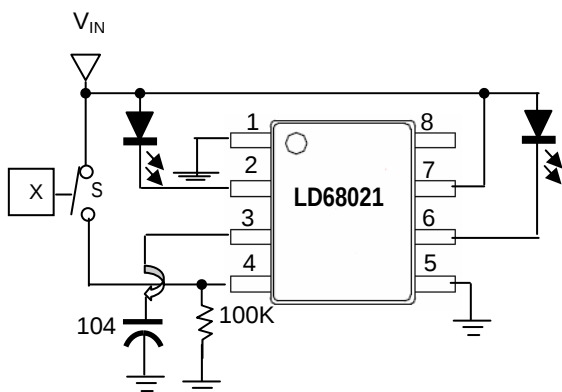
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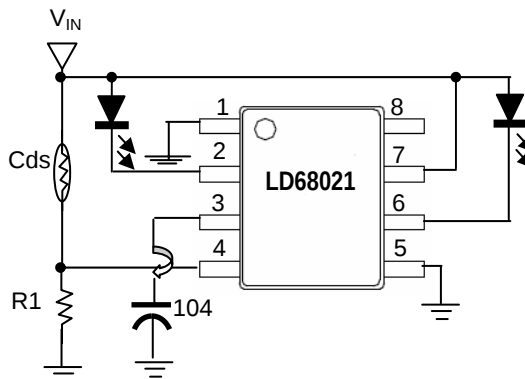
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應用電路 TYPICAL APPLICATION CIRCUIT

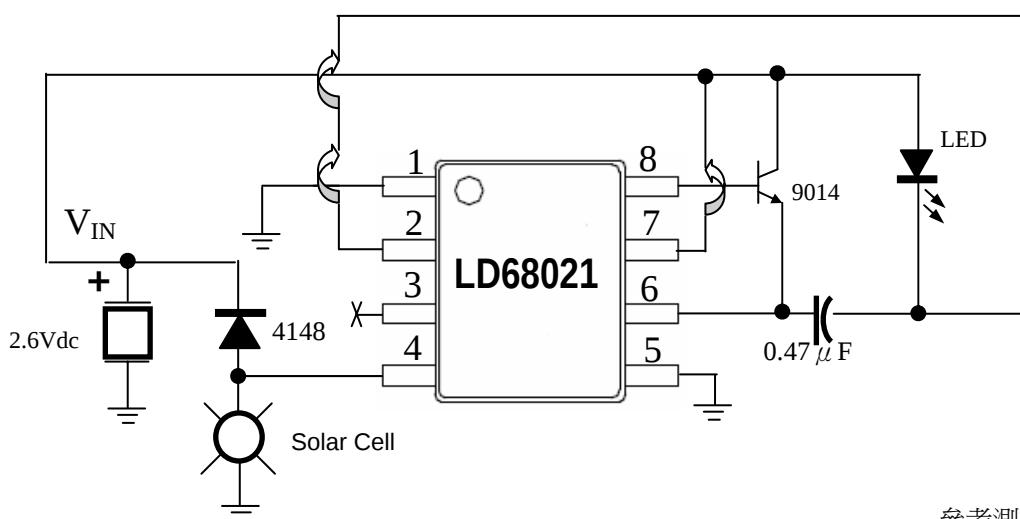


Taillight of Car, Table light



Night Light by photo control, door tablet

APPLICATION CIRCUIT OF SOLAR GARDEN LIGHT



參考測試線路圖



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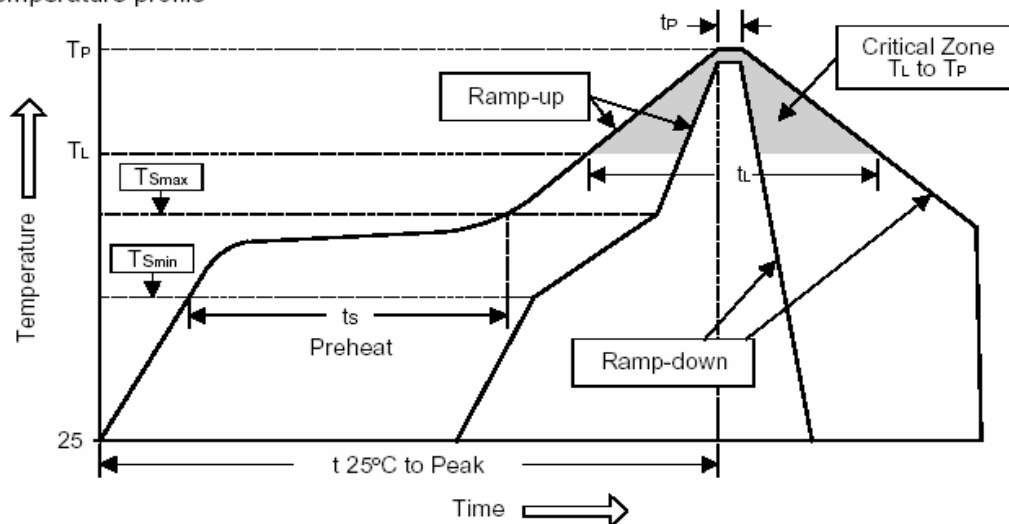
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Soldering Methods for Products of SONGROCK

1. Storage environment: Temperature=10°C~35°C Humidity=65%±15%
2. Reflow soldering of surface-mount devices

Figure 1: Temperature profile



Profile Feature	Sn-Pb Eutectic Assembly	Pb-Free Assembly
Average ramp-up rate (T_L to T_P)	<3°C/sec	<3°C/sec
Preheat		
- Temperature Min (T_{Smin})	100°C	150°C
- Temperature Max (T_{Smax})	150°C	200°C
- Time (min to max) (t_s)	60~120 sec	60~180 sec
T_{Smax} to T_L - Ramp-up Rate	<3°C/sec	<3°C/sec
Time maintained above:		
- Temperature (T_L)	183°C	217°C
- Time (t_L)	60~150 sec	60~150 sec
Peak Temperature (T_P)	240°C +0/-5°C	260°C +0/-5°C
Time within°C of actual Peak Temperature (t_P)	10~30 sec	20~40 sec
Ramp-down Rate	<6°C/sec	<6°C/sec
Time 25°C to Peak Temperature	<6 minutes	<8 minutes

Flow (wave) soldering (solder dipping)

Products	Peak temperature	Dipping time
Pb devices.	245°C ±5°C	5sec ±1sec
Pb-Free devices.	260°C +0/-5°C	5sec ±1sec



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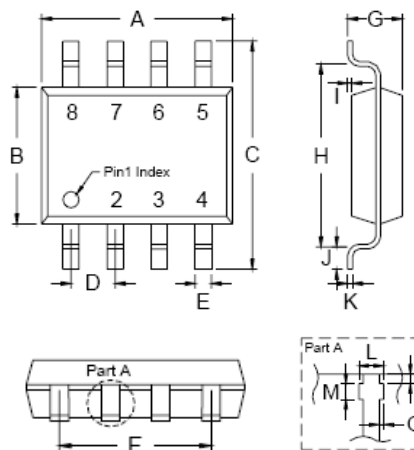
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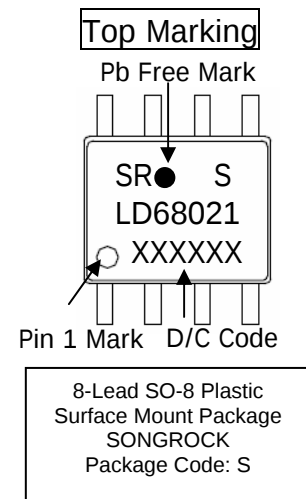
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SO-8 Dimension & Mechanical Drawing



DIM	Min.	Max.
A	4.85	5.10
B	3.85	3.95
C	5.80	6.20
D	1.22	1.32
E	0.37	0.47
F	3.74	3.88
G	1.45	1.65
H	4.80	5.10
I	0.05	0.20
J	0.30	0.70
K	0.19	0.25
L	0.37	0.52
M	0.23	0.28
N	0.08	0.13
O	0.00	0.15

*: Typical, Unit: mm



Unit: mm