

产品概述

BDR6121B 是一款直流有刷电机驱动 IC，适用于电子锁、电动牙刷、玩具、消费类产品以及其它低压或者电池供电运动控制产品。

BDR6121B 输出 DC 峰值电流达到 2.5A，连续电流 1.4A；VDD 工作范围是 1.8~ 6.8V。

BDR6121B 有一组 PWM (INA-INB) 输入，低输出内阻，采用 SOP8\SOT23-6 封装。内部集成过流保护、欠压保护和过温保护。

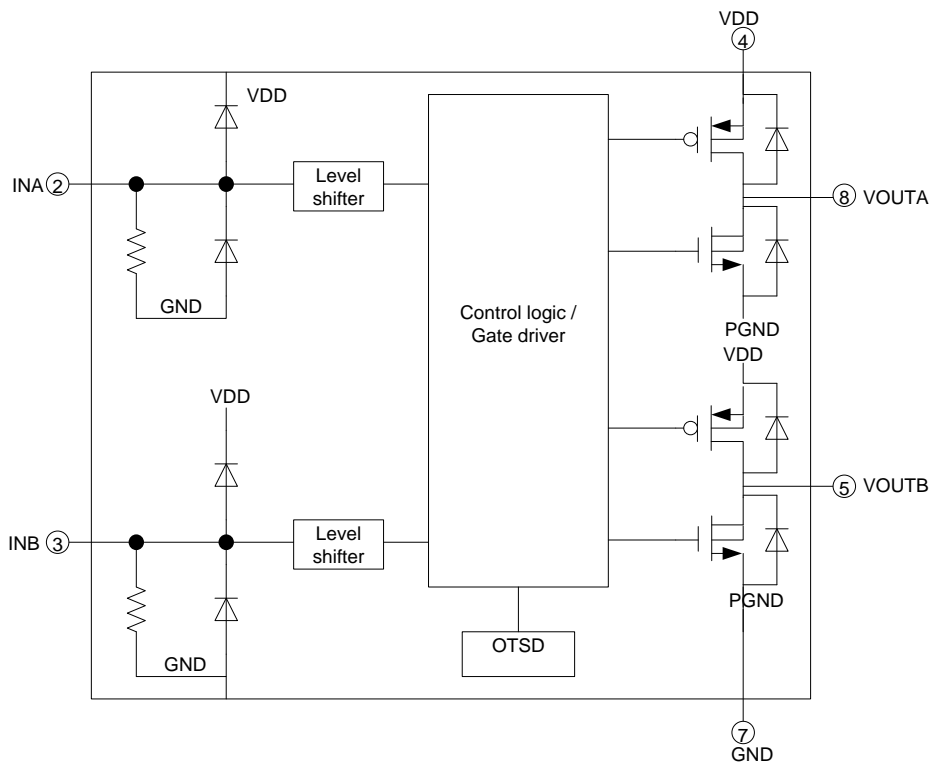
特征

- 工作电压范围
 - VDD=1.8V to 6.8V
 - (2 到 4 节 AA 或 AAA 电池)
- 极低的待机电流：0.5uA (VDD=5V, TYP)
- 具迟滞的过热保护 (OTSD)
- 低导通电阻~0.55 欧姆

应用

- 电子锁
- 电动牙刷
- 玩具
- 消费类电机驱动

框图



图一. 内部原理框图

应用电路

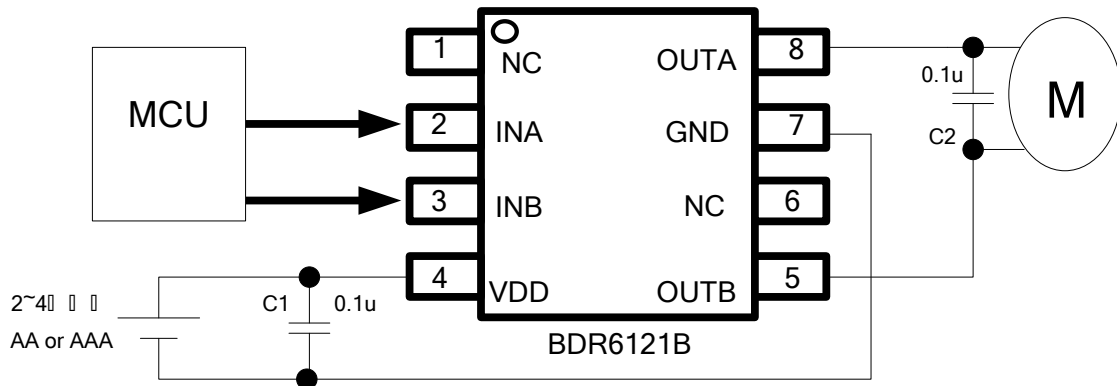


图 2. 应用原理图

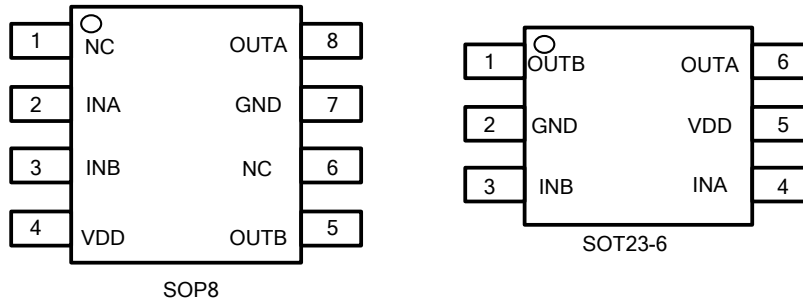
*C1 必须尽可能的靠近 BDR6121B(<1cm)

*C2 必须直接焊接在电机上

订单资料

产品编号	封装类型	标记
BDR6121B-S	8-Pin, SOP, 150 MIL	-
BDR6121B	6-Pin, SOT23	-

脚位定义

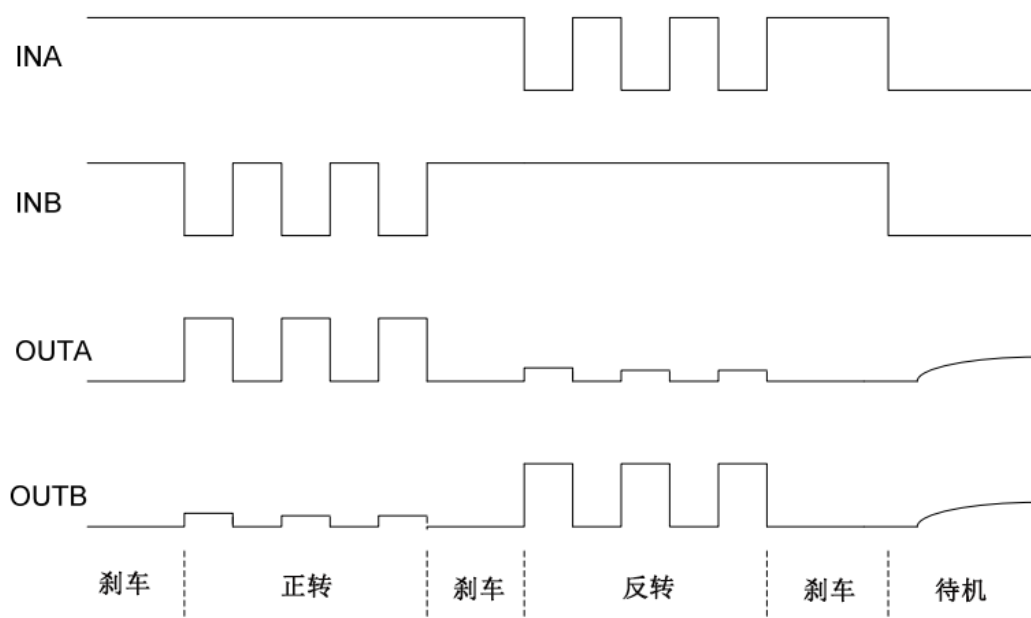


引脚名称	I/O	描述	引脚编号	
NC	-	空脚	1	-
INA	I	正转输入	2	4
INB	I	反转输入	3	3
VDD	-	电源端	4	5
OUTB	O	反转输出	5	1
NC	-	空脚	6	-
GND	-	接地端	7	2
OUTA	O	正转输出	8	6

逻辑真值表

INA	INB	OUTA	OUTB	功能
L	L	Hi-Z	Hi-Z	待机
L	H	L	H	反转
H	L	H	L	正转
H	H	L	L	刹车

建议输入方式



最大额定值

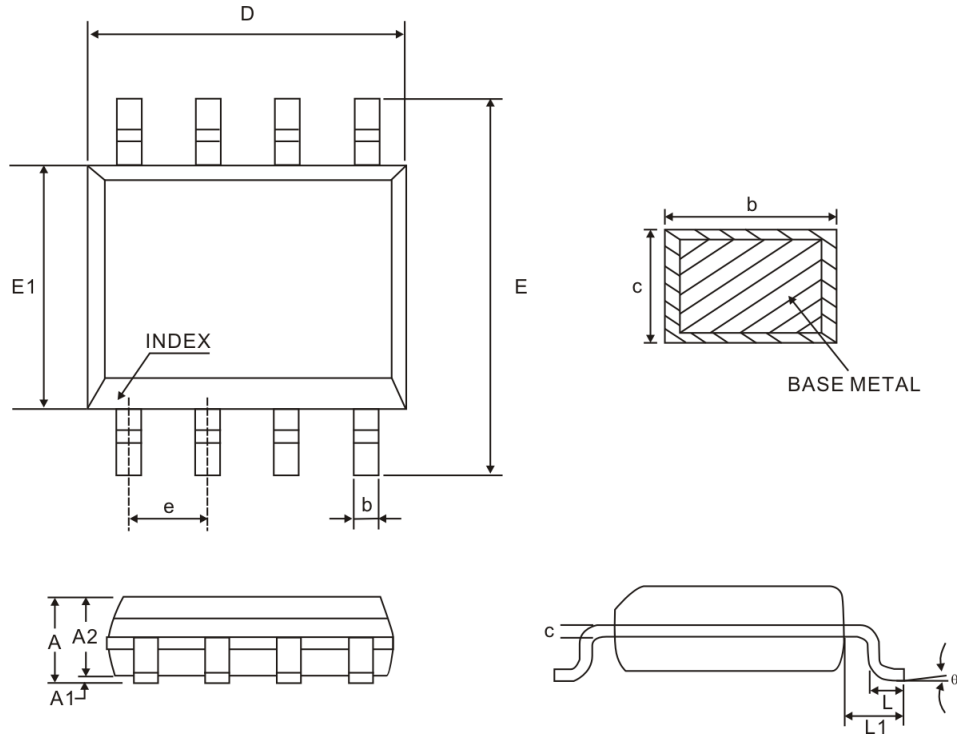
参数	符号	条件	额定值	单位
电源电压	VDD	电机	6.8	V
		电阻性负载	7.8	V
功耗	Pd	-	1.2	W
输出峰值电流	Ipeak	-	2.5	A
输出连续电流	Icon	-	1.4	A

推荐工作条件

参数	测试条件	最小值	标准	最大值	单位
VDD 范围	电阻负载 5 欧姆	1.8	5.0	6.8	V
I _{IM} 输入电阻	INA/INB, VDD=5V	-	100	-	KΩ
I _F 输入信号频率	-	1K	-	65K	HZ
I _{DD} 输入电流	No load, Input=5V	-	70	-	uA
I _{DD} 输入电流	When INA/INB input high=1.8V	-	100	300	uA
I _{SB} 待机电流	Standby mode INA=INB=0 > 20ms	-	0.1	0.6	uA
R _{ON} 输出导通电阻	I _{LOAD} =500mA	-	0.5	-	ohm
R _{ON} 输出导通电阻	I _{LOAD} =1000mA	-	0.56	-	ohm
R _{ON} 输出导通电阻	I _{LOAD} =1400mA	-	0.7	-	ohm
V _{Ih} 输入高电压		-	1.8	-	V
V _{Il} 输入低电压		-	0.7	-	V
T _{OTSD} 过温关机温度	VDD=5V	-	150	-	°C
H _{OTSD} 过温关机迟滞		-	50	-	°C

封装资料

8 PINS, SOP, 150MIL

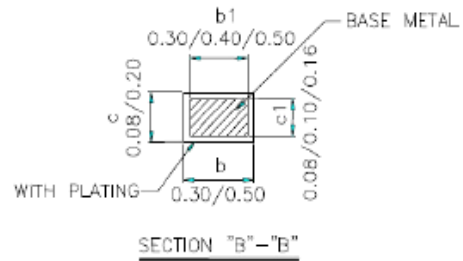
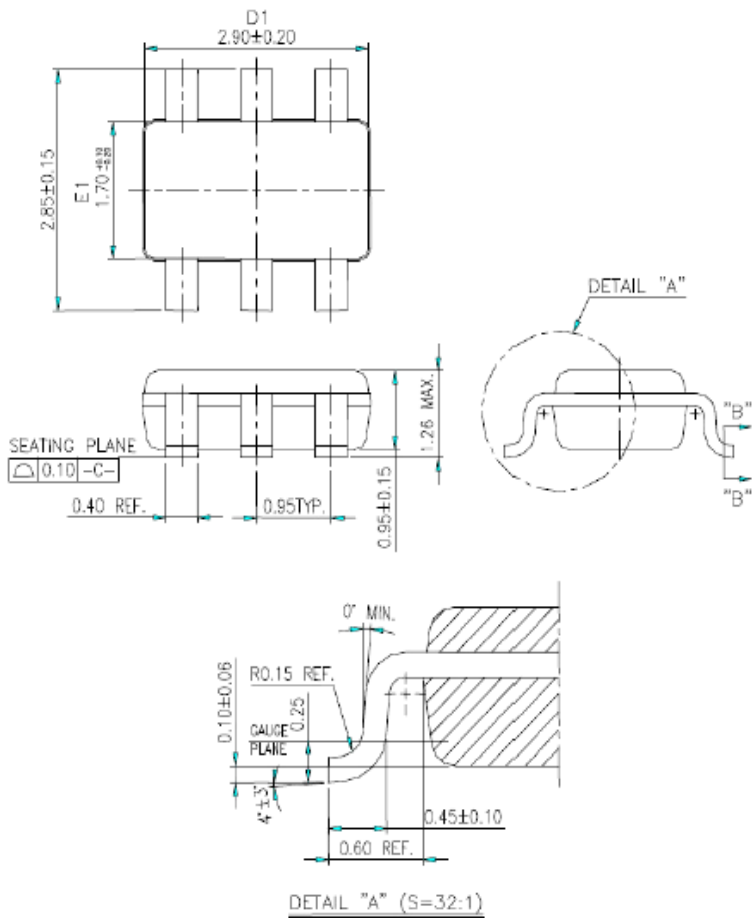


Symbol	Millimeter		
	Min.	Nom.	Max.
A	-	-	1.75
A1	0.10	-	0.25
A2	1.25	-	-
b	0.31	-	0.51
c	0.10	-	0.25
D	4.90 BSC		
E	6.00 BSC		
E1	3.90 BSC		
e	1.27BSC		
L	0.40	-	1.27
θ	0°	-	8°

Notes:

1. Refer to JEDEC MS-012AA
2. All dimensions are in millimeter

SOT23-6



NOTES:

1. DIMENSION D1 & E1 DOES NOT INCLUDE MOLD PROTRUSION.
2. COPLANARITY OF ALL LEADS SHALL BE (BEFORE TEST) 0.1 MAX. FROM THE SEATING PLANE, UNLESS OTHERWISE SPECIFIED.
3. GENERAL PHYSICAL OUTLINE SPEC IS REFER TO TMC'S FINAL VISUAL INSPECTION SPEC UNLESS OTHERWISE SPECIFIED.

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