

MSKSEMI 美森科

SEMICONDUCTOR



ESD



TVS



TSS



MOV



GDT



PLED

AP1511-MS

产品手册

描述

AP1511-MS 是为安防电子，智能硬件和其他低压或者电池供电的运动控制类应用提供了一个集成的电机驱动器解决方案。此器件能够驱动一个直流有刷电机，由一个内部电荷泵生成所需的栅极驱动电压电路和4个功率NMOS组成H桥驱动，集成了电机正转/反转两个功能。

AP1511-MS 支持最高工作电压为 7.5V，持续电流 1.2A，峰值电流 2.5A。同时，集成了过温保护和欠压闭锁等保护功能。

AP1511-MS 具有一个 PWM (FBC) 输入接口，支持与行业标准器件兼容。

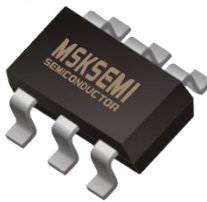
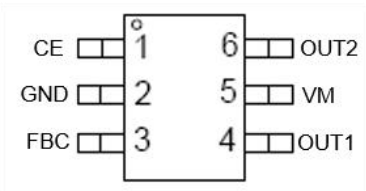

特性

- 工作电压范围2.0-7.5V
- 持续电流1.2A, 峰值2.5A
- 低导通电阻: 550mΩ (HS+LS)
- 兼容1.8V/3.3V/5.0V IO
- 低待机电流
- 低静态工作电流
- 集成过温保护
- 集成欠压保护
- SOT-23-6封装

典型应用

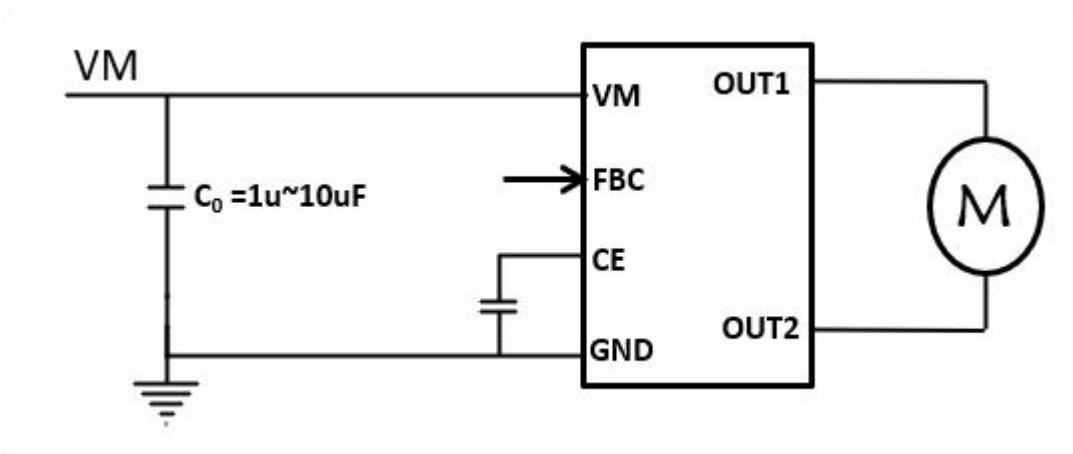
IR-CUR
安防电子

AP1511B-MS 封装和脚位定义

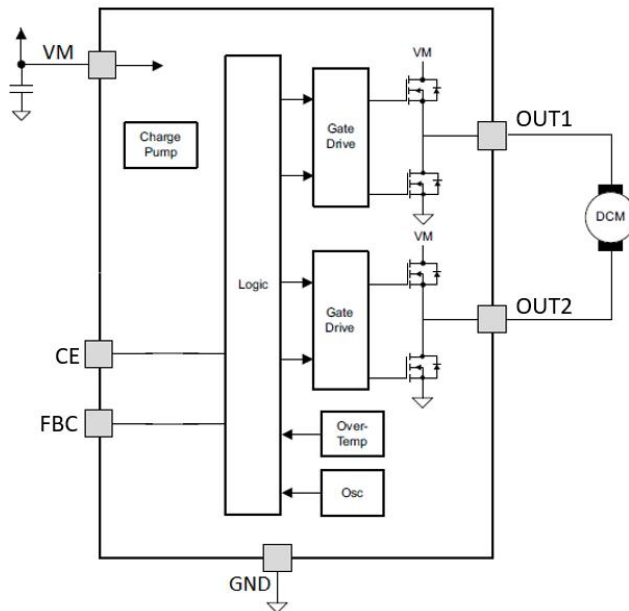
封装	管脚排列	丝印标记
 <p>SOT-23-6</p>		

NO.	NAME	TYPE	DESCRIPTION
1	CE	O	外置电容脚，控制正转和反转的开启时间
2	GND	P	功率地
3	FBC	I	逻辑输入
4	OUT1	O	输出OUT1
5	VM	P	电源输入脚，连接10uF或更大电容在VM和地之间
6	OUT2	O	输出OUT2

简单应用电路

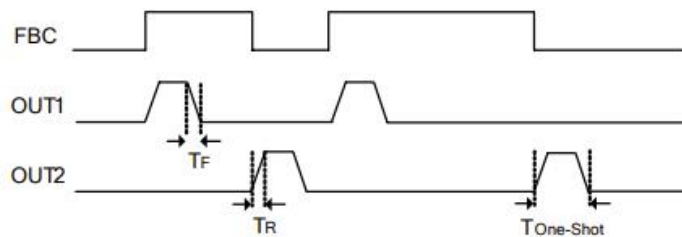


功能框图



输入-输出逻辑表

Input	Output	
	OUT1	OUT2
FBC (High)	High	Low
FBC (Low)	Low	High



$$T_{ONE-SHOT} = 1.3 \times 10^6 \times C_{CE} \text{ (second)}$$

绝对最大额定值

参数		最小	最大	单位
电源电压	VM	-0.3	10.0	V
输入电压	FBC	-0.3	8.0	V
静电保护（人体模型）		2.0		kV
工作温度	T _J	-40	150	°C
存储温度	T _{stg}	-65	150	°C
热阻	θ _{JA}		100	°C/W

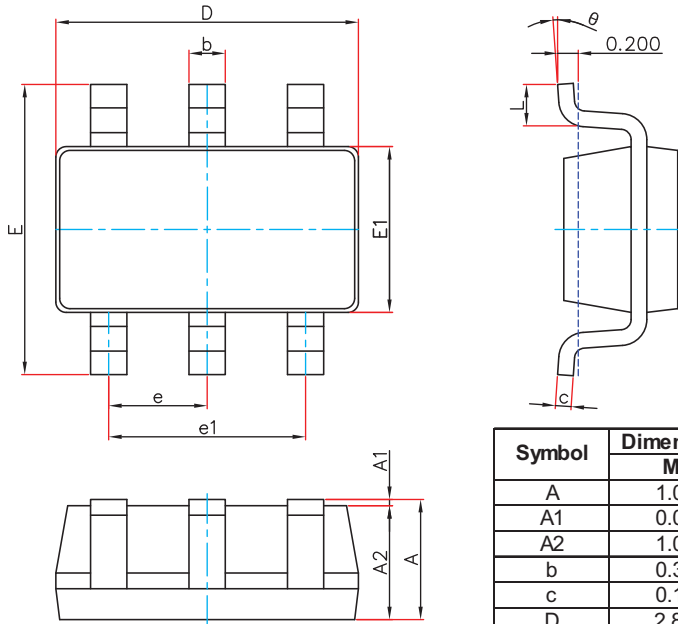
推荐工作范围

参数		最小	最大	单位
电源电压	VM	2.0	7.5	V
输入电压	FBC	0	5.0	V
输出电流	I _{OUT1} , I _{OUT2}	0	1.2	A

电气特性 (VM=5.0V, Ta=25 °C)

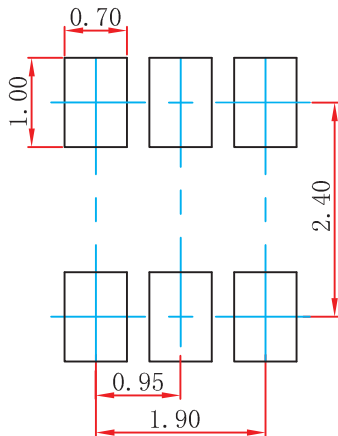
参数		测试条件	最小值	典型值	最大值	单位
导通阻抗						
FET 导通电阻	R _{DS(on)}	I _{OUT} =0.5A		0.55	0.75	Ω
FBC						
高电平输入电压	V _{INH}		1.50		5.0	V
低电平输入电压	V _{INL}		0		0.8	V
工作电流						
电路关断电流	I _{VM_OFF}	FBC=0		9.5	20	uA
电路工作电流	I _{VM_ON}			0.5	1.0	mA
保护特性						
温度上升保护点	TOTSD			170		°C
温度迟滞	THYS			60		°C
VM 上升欠压保护	VUVLO_R	VM 上升		1.8	2.0	V
VM 下降欠压保护	VUVLO_F	VM 下降		1.6	1.8	V

SOT-23-6 包装外形尺寸



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E1	1.500	1.700	0.059	0.067
E	2.650	2.950	0.104	0.116
e	0.950(BSC)		0.037(BSC)	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°

SOT-23-6 焊盘布局



- Note:
1. Controlling dimension: in millimeters.
 2. General tolerance: $\pm 0.05\text{mm}$.
 3. The pad layout is for reference purposes only.

订购信息

订单型号	封装形式	包装/数量
AP1511B-MS	SOT-23-6	盘装/3000pcs

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