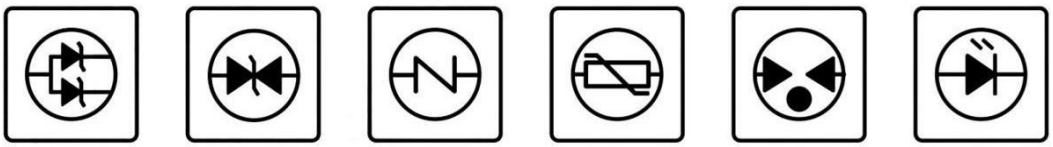
MSKSEMI 美森科
SEMICONDUCTOR



AP1511B-MS

产品手册

描述

AP1511B－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。

AP1511B－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。

AP1511B－MS 具有一个 PWM　(FBC)输入接口　，支持与行业标准器件兼容。

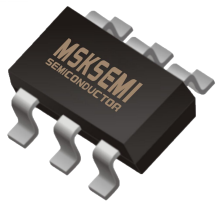
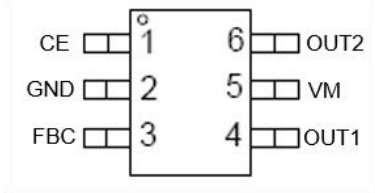
特性

- 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

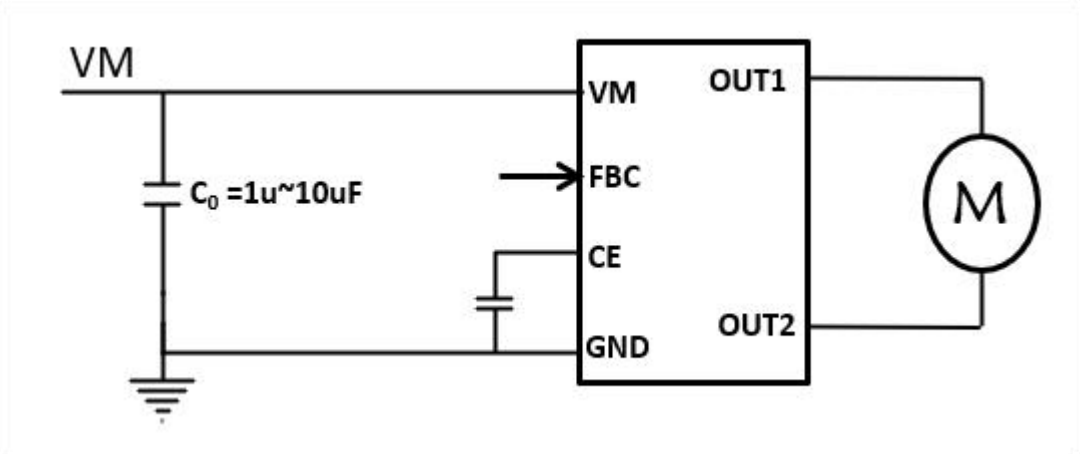
IR-CUR
安防电子

AP1511B-MS 封装和脚位定义

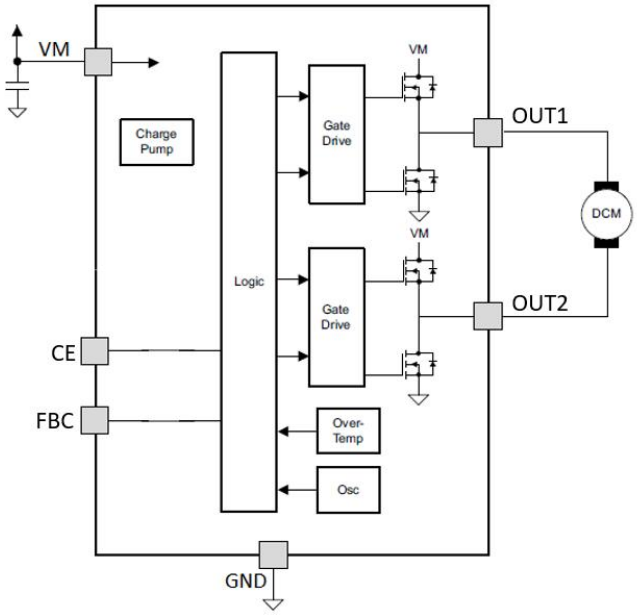
封装	管脚排列	丝印标记
		
SOT-23-6		

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

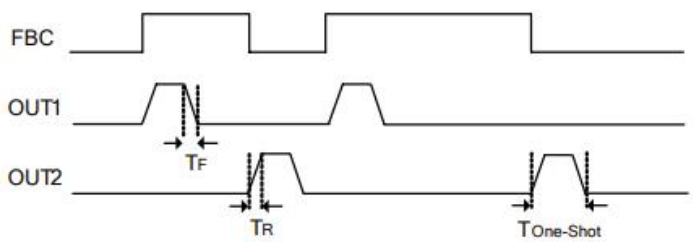


功能框图



输入-输出逻辑表

Input	Output	
FBC	OUT1	OUT2
⌐	∩	—
⌙	—	∩



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

绝对最大定额值

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	℃
存储温度	T_{stg}	-65	150	℃
热阻	θ_{JA}		100	℃/W

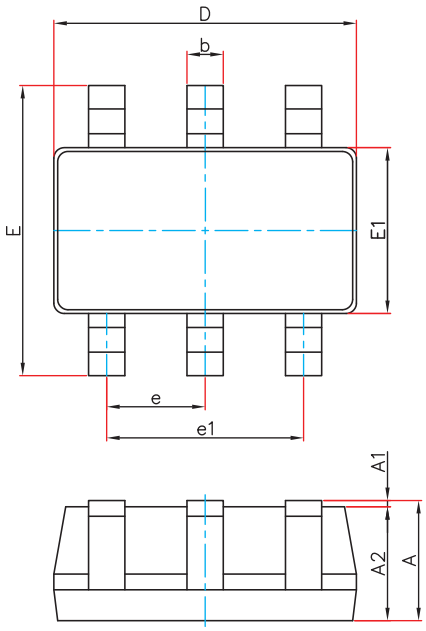
推荐工作范围

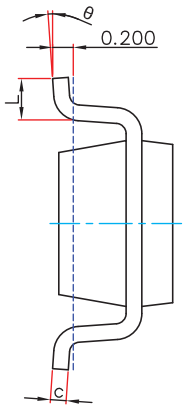
参数		最小	最大	单位
电源电压	VM	2.0	7.5	V
输入电压	FBC	0	5.0	V
输出电流	I_{OUT1}, I_{OUT2}	0	1.2	A

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_{DSON}	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	IVM_OFF	FBC=0		9.5	20	uA
电路工作电流	IVM_ON			0.5	1.0	mA
保护特性						
温度上升保护点	TOTSD			170		℃
温度迟滞	THYS			60		℃
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

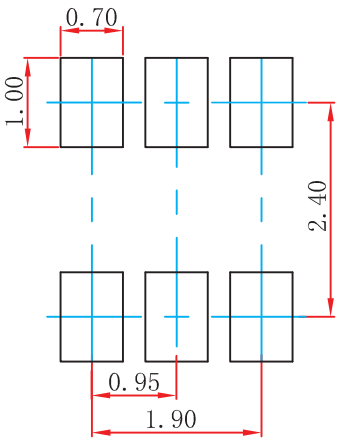
SOT-23-6 包装外形尺寸





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:± 0.05mm.
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

Attention

■ Any and all MSKSEMI Semiconductor products described or contained herein do not have specifications that can handle applications that require extremely high levels of reliability, such as life-support systems, aircraft's control systems, or other applications whose failure can be reasonably expected to result in serious physical and/or material damage. Consult with your MSKSEMI Semiconductor representative nearest you before using any MSKSEMI Semiconductor products described or contained herein in such applications.

■ MSKSEMI Semiconductor assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specificationsof any andall MSKSEMI Semiconductor products described orcontained herein.

■ Specifications of any and all MSKSEMI Semiconductor products described or contained herein stipulate the performance, characteristics, and functions of the described products in the independent state, and are not guarantees of the performance, characteristics, and functions of the described products as mounted in the customer's products or equipment. To verify symptoms and states that cannot be evaluated in an independent device, the customer should always evaluate and test devices mounted in the customer'sproducts orequipment.

■ MSKSEMI Semiconductor. strives to supply high-quality high-reliability products. However, any and all semiconductor products fail with someprobability. It is possiblethat these probabilistic failures could give rise to accidents or events that could endanger human lives, that could give rise to smoke or fire, or that could cause damage to other property. When designing equipment, adopt safety measures so that these kinds of accidents or events cannot occur. Such measures include but are not limited to protective circuits anderror prevention circuitsfor safedesign, redundant design, and structural design.

■ In the event that any or all MSKSEMI Semiconductor products(including technical data, services) described or contained herein are controlled under any of applicable local export control laws and regulations, such products must not be exported without obtaining the export license from theauthorities concerned in accordance with the above law.

■ No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying and recording, or any information storage or retrieval system, or otherwise, without the prior written permission of MSKSEMI Semiconductor.

■ Information (including circuit diagrams and circuit parameters) herein is for example only ; it is not guaranteed for volume production. MSKSEMI Semiconductor believes information herein is accurate and reliable, but no guarantees are made or implied regarding its use or any infringementsof intellectual property rights or other rightsof third parties.

■ Any and all information described or contained herein are subject to change without notice due to product/technology improvement, etc. Whendesigning equipment, referto the "Delivery Specification" for the MSKSEMI Semiconductor productthat you intend to use.

单击下面可查看定价，库存，交付和生命周期等信息

>>MSKSEMI(美森科)