

FD2024S

双低端栅极驱动器

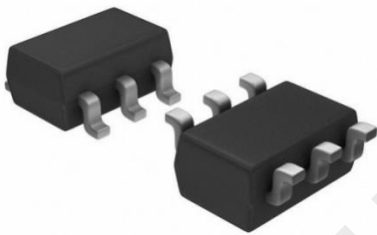
产品特点

- 电源电压: 4.0V~18V
- 输出电流: +1.2A/-1.3A
- 3.3V/5V输入逻辑兼容
- VCC欠压保护 (UVLO)
- 输出与输入同相
- SOT23-6封装

应用

- 开关电源
- 高效MOSFET开关
- DC/DC转换器
- 电机驱动

封装



SOT23-6

1. 绝对最大额定值 (除非特殊说明, 所有管脚均以 COM 作为参考点)

参数	符号	范围	单位
供电电压	V_{CC}	-0.3 ~ 25	V
输出电压 (OUT1, OUT2)	V_{OUT}	-0.3 ~ $V_{CC}+0.3$	V
逻辑输入电压 (IN1, IN2)	V_{IN}	-0.3 ~ 6.5	V
功率耗散@ $T_A \leq 25^\circ\text{C}$	P_D	0.625	W
结对环境的热阻	R_{thJA}	200	$^\circ\text{C/W}$
结温范围	T_J	≤ 150	$^\circ\text{C}$
储存温度范围	T_{stg}	-55 ~ 150	$^\circ\text{C}$

注 1: 电压超过绝对最大额定值, 可能会损坏芯片。

注 2: 在任何情况下, 不要超过 P_D 。

2. 推荐工作条件 (所有电压均以 COM 为参考点)

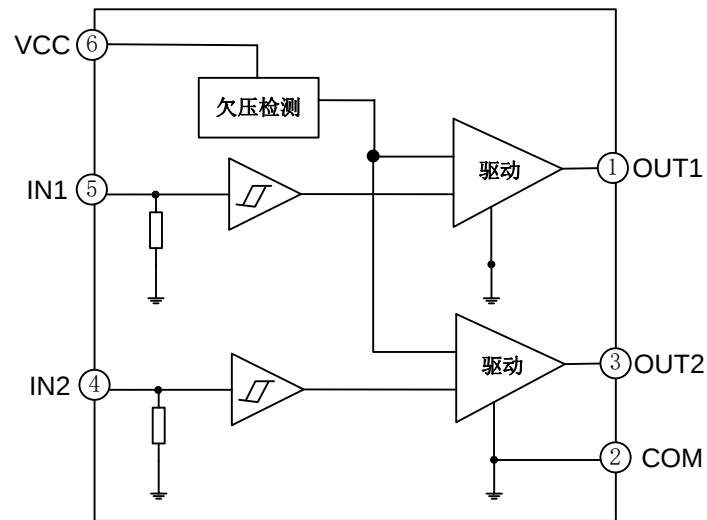
参数	符号	最小值	最大值	单位
供电电压	V_{CC}	4.0	18	V
输出电压 (OUT1, OUT2)	V_{OUT}	0	V_{CC}	V
逻辑输入电压 (IN1, IN2)	V_{IN}	0	6.0	V
环境温度	T_A	-40	125	$^\circ\text{C}$

注 1: 芯片长久地工作在推荐的工作条件之上, 可能会影响其可靠性。不建议芯片在推荐的工作条件之上长期工作。

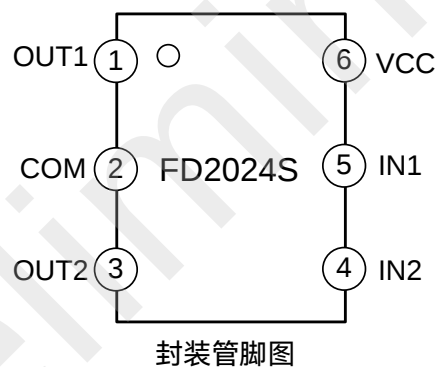
3. 静态电气参数 (除非特别注明, 否则 $T_A=25^\circ\text{C}$, $V_{CC}=15\text{V}$)

参数	符号	测试条件	最小值	典型值	最大值	单位
V_{CC} 静态电流	I_{QCC}	$IN1=IN2=0$	--	0.7	1.0	mA
IN 高电平输入阈值电压	V_{IH}		--	2.2	2.8	V
IN 低电平输入阈值电压	V_{IL}		0.8	1.5	--	V
IN 高电平输入偏置电流	I_{IN+}	$V_{IN}=5\text{V}$	70	120	200	μA
IN 低电平输入偏置电流	I_{IN-}	$V_{IN}=0\text{V}$	--	--	2	μA
V_{CC} 欠压保护跳闸电压	V_{CCUV+}		3.0	3.5	4.0	V
V_{CC} 欠压保护复位电压	V_{CCUV-}		2.8	3.3	3.8	V
V_{CC} 欠压保护迟滞电压	V_{CCUVH}		--	0.2	--	V
高电平输出电压	V_{OH}	$I_O=-10\text{mA}$	--	80	130	mV
低电平输出电压	V_{OL}	$I_O=10\text{mA}$	--	30	50	mV
高电平输出短路脉冲电流	I_{OH}	$V_O=0\text{V}$, $V_{IN}=5\text{V}$	0.7	1.2	--	A
低电平输出短路脉冲电流	I_{OL}	$V_O=15\text{V}$, $V_{IN}=0\text{V}$	0.8	1.3	--	A
输出上升沿传输时间	t_{on}		--	40	80	ns
输出下降沿传输时间	t_{off}		--	40	80	ns
输出上升时间	t_r	$C_L=1000\text{pF}$	--	25	50	ns
输出下降时间	t_f	$C_L=1000\text{pF}$	--	25	50	ns

4. 电路框图

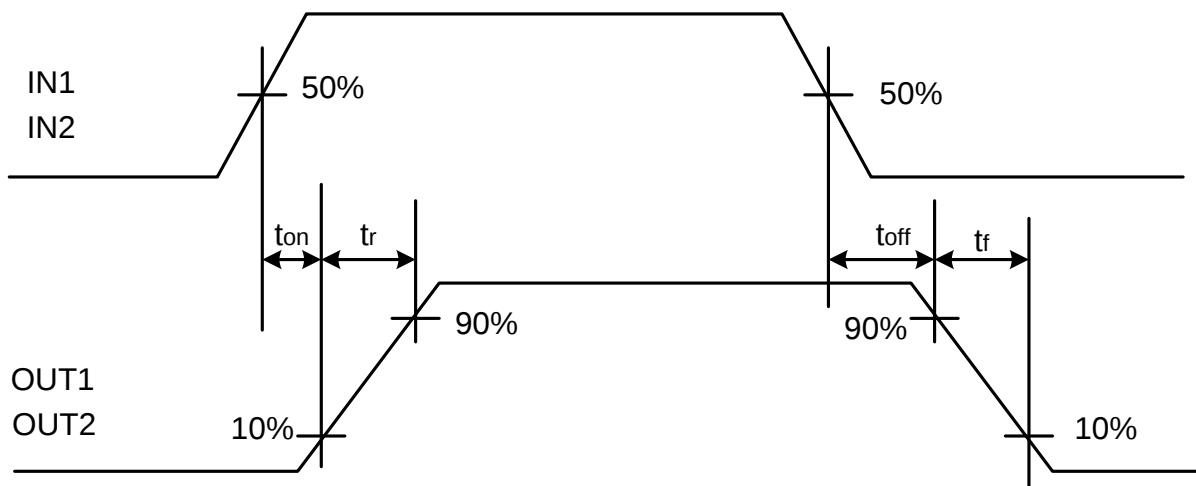


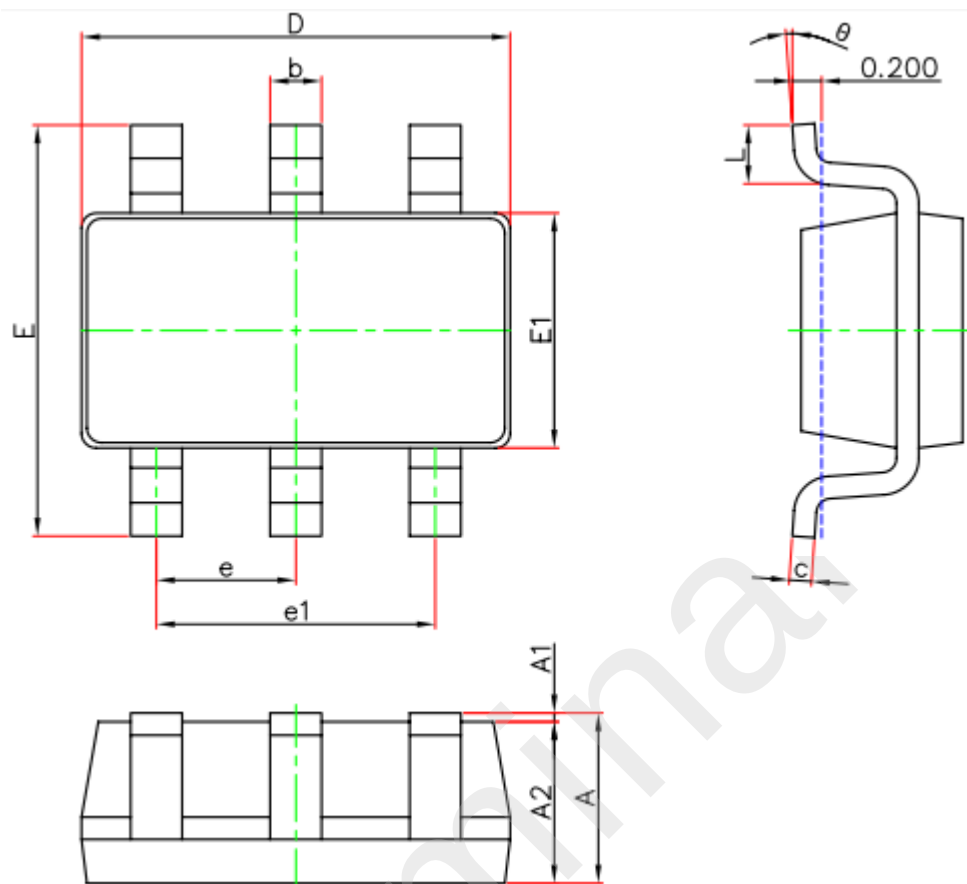
5. 芯片引脚配置



管脚号	管脚名称	管脚描述
1	OUT1	输出信号 1
2	COM	接地
3	OUT2	输出信号 2
4	IN2	输入信号 2
5	IN1	输入信号 1
6	VCC	供电电压

6. 开关时间测试标准



7. 封装尺寸 (SOT23-6)


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°

产品型号	封装形式	Marking	包装方式	数量
FD2024S	SOT23-6	FD2024S	Tape&Reel	3000

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