

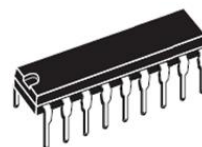
ULN2803 产品手册

1. 产品特性:

ULN2803 为 8 路达林顿结构电路，每路的输出电流为 500mA，峰值电流为 600mA，输出电压为 50V，采用共发射极结构，每路可以独立输出。

该电路常用于驱动各种负载，如直流发动机、LED 显示灯、大功率缓

存和 5V TTL、CMOS 等通用逻辑电路。



DIP18



SOP18

图 1 ULN2803 电路外形图

2. 封装形式及管脚定义

ULN2803 采用 DIP18 塑封形式;

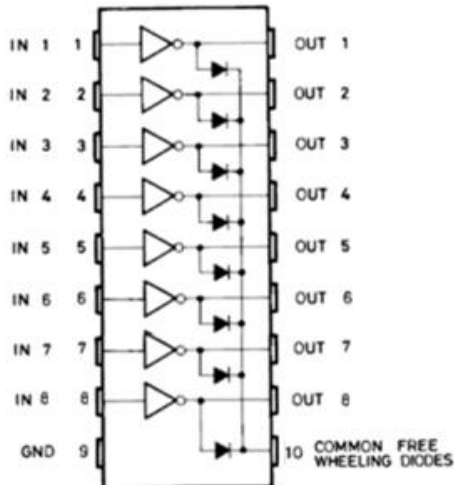


图 2 ULN2803 管脚定义图

3. 最大额定值

表 1 最大额定值

符号	参数	最大额定值	单位
V _o	输出电压	50	V

V _{in}	输入电压	30	V
I _c	输出电流	500	mA
I _b	输入电流	25	mA

4. 电路原理图

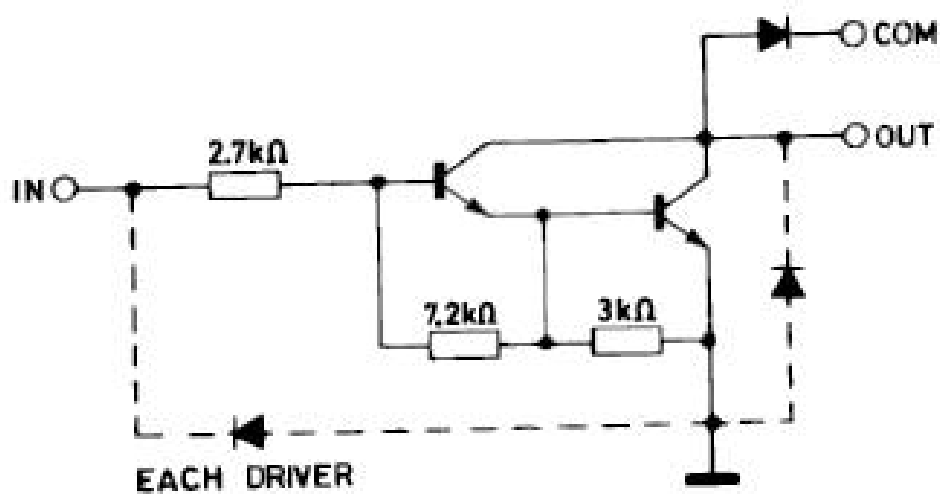


图 3 ULN2803 电路原理图

5. 电参数

表 2 测试电参数

Symb ol	参数说明	测试条件	Min.	Typ	Max	单位	测试图
I _{CEX}	输出漏电流	V _{CE} =50V	—	—	50.0	μA	Figure 1a.
V _{CE(sat)}	集电极-发射极	I _C =100mA, I _B =250μA	—	0.9	1.1	V	Figure 2.
	饱和压降	I _C =200mA, I _B =350μA	—	1.1	1.3		

		$I_C=350\text{mA}$, $I_B=500\mu\text{A}$	—	1.3	1.6		
$I_{i(\text{on})}$	输入开启电流	ULN2803, $V_i=3.85\text{V}$	—	0.9 3	1.35	mA	Figure 3.
$V_{i(\text{on})}$	输入开启电压	$V_{CE}=2.0\text{V}$, $I_C=200\text{mA}$ $V_{CE}=2.0\text{V}$, $I_C=250\text{mA}$ $V_{CE}=2.0\text{V}$, $I_C=300\text{mA}$	—	—	2.4 2.7 3.0	V	Figure 5.
I_R	二极管漏电流	$V_R=50\text{V}$	-4.0	—	50.0	μA	Figure 6.
V_F	二极管正向压降	$I_F=350\text{mA}$	—	1.7	2	V	Figure 7.
I_{CEX-1V}	输出漏电流	$V_{CE}=50\text{V}$, $V_i=1\text{V}$	-5	—	80	μA	Figure 1 b.

6.测试图

Figure 1a.

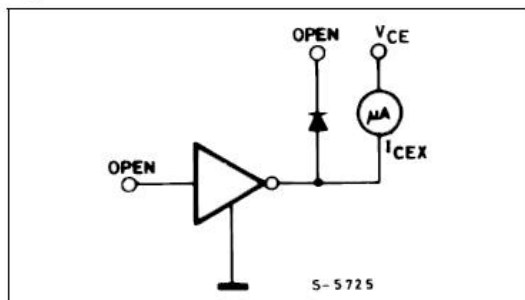


Figure 1b.

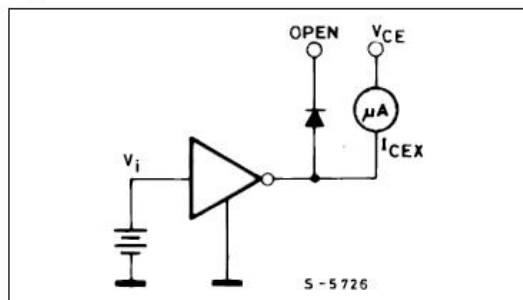


Figure 2.

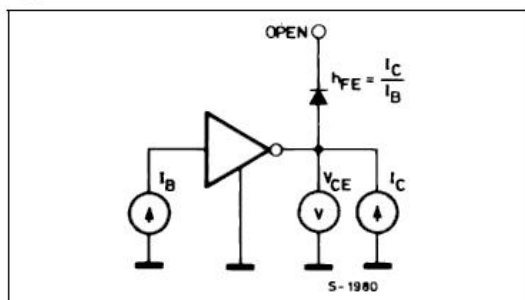


Figure 3.

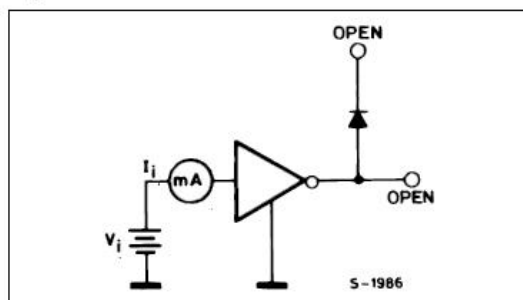


Figure 4.

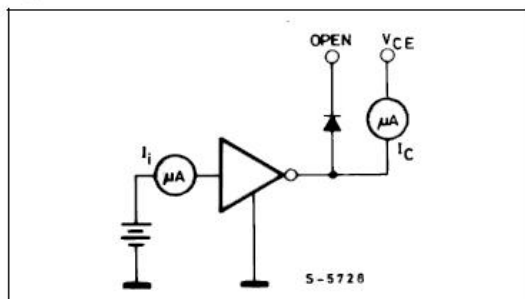


Figure 5.

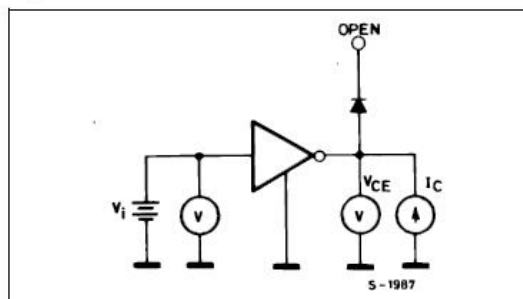


Figure 6.

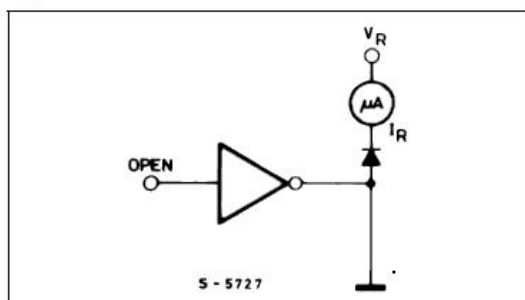


Figure 7.

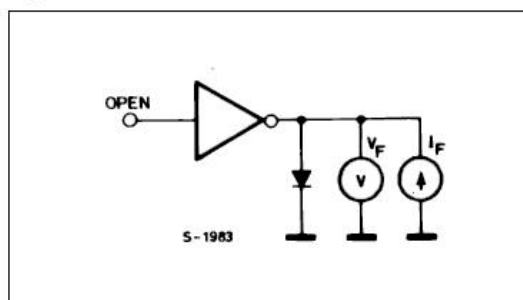


图 4 测试线路图

7. 特性曲线图

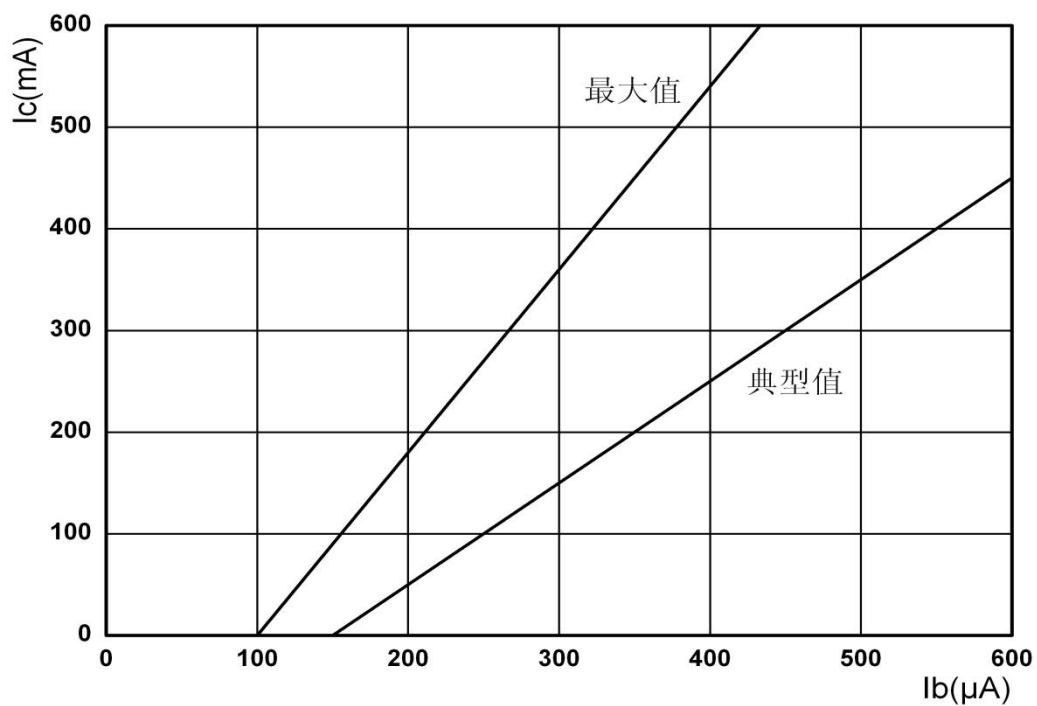


图 5 输出电压和输入电流特性曲线图

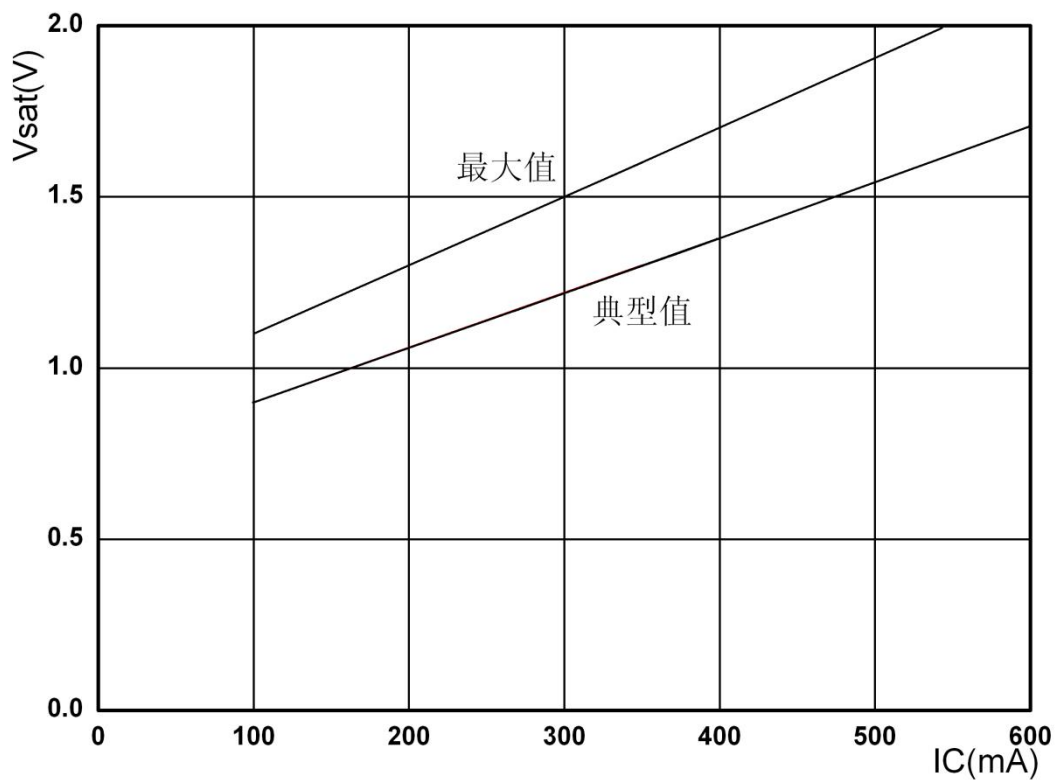
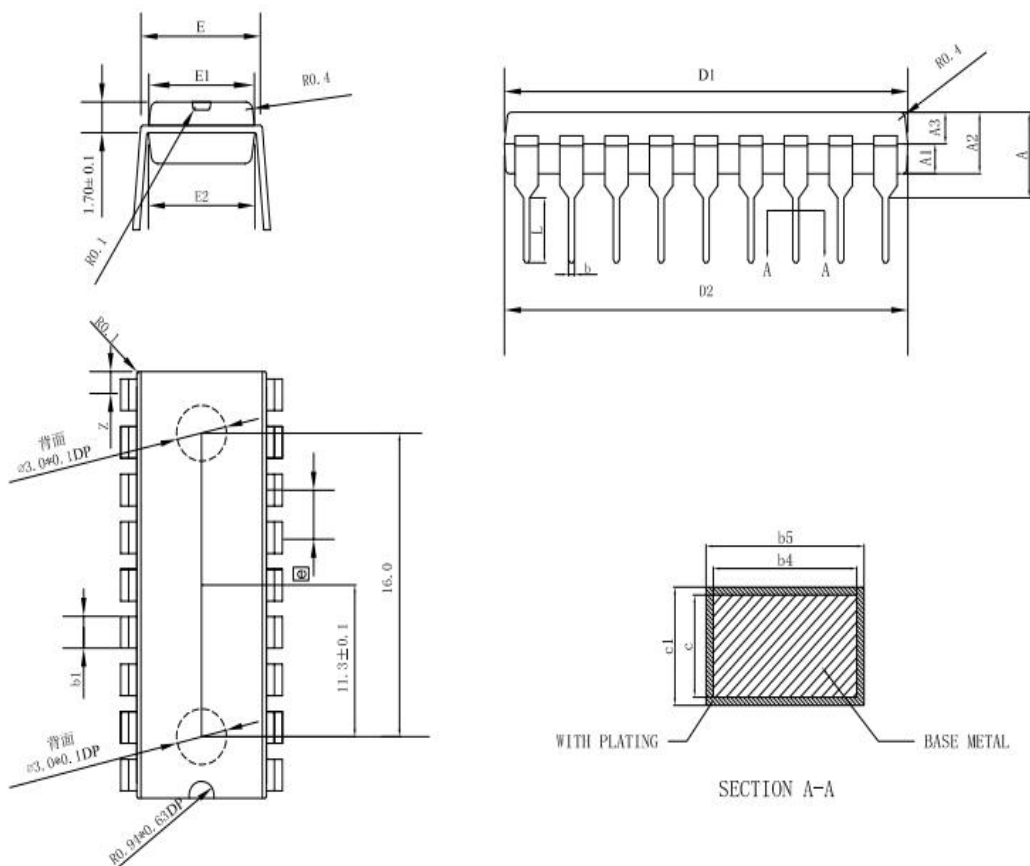


图 6 饱和压降和输出电压特性曲线图

8.封装信息

DIP18

symbol	Min	Nom	Max
A	3.900	--	4.350
A1	1.450	1.650	1.850
A2	3.200	3.300	3.400
A3	1.450	1.650	1.850
b	0.464	0.479	0.494
l	3.215	3.315	3.415
D1	22.760	22.900	23.040
D2	22.760	22.900	23.040
b1	1.499	1.524	1.550
□	2.515	2.540	2.565
Z	1.210	1.310	1.410
E	7.510	7.900	8.000
E1	6.380	6.580	6.780
E2	6.210	6.500	6.790
c	0.244	0.254	0.264
e1	0.251	--	0.284
b4	0.447	0.457	0.467
b5	0.454	--	0.487



NOTE:

1. All dimensions are in mm.
2. Dim D1/D2 & E1/E2 does not include plastic flash.
Flash: Plastic residual around body edge after dejunk/singulation.
3. Dim b does not include dambar protrusion/intrusion.
4. Plating thickness 0.005~0.015 mm.

图 7 DIP18 封装外观尺寸信息图

SOP18

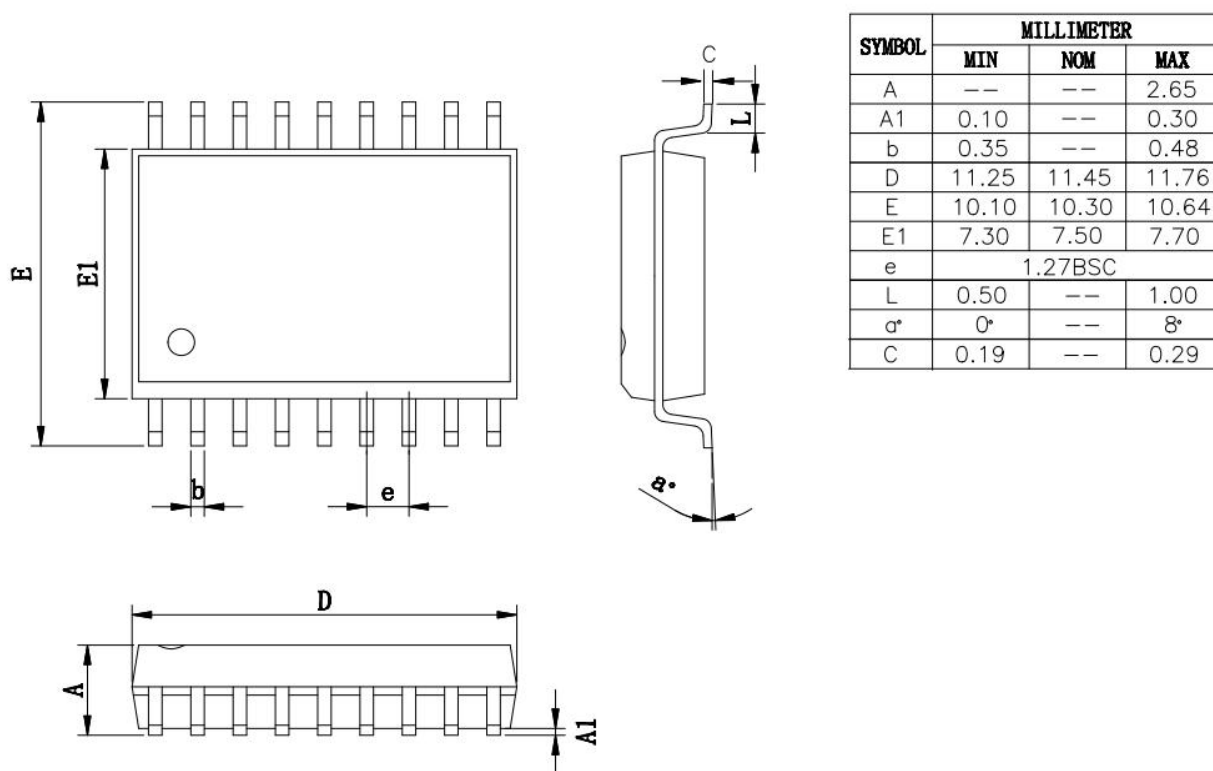


图 8 SOP18 封装外观尺寸信息图