



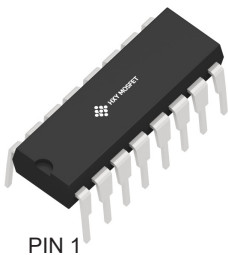
1.产品特性:

ULN2003ADR为 7 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 等通用逻辑电路等。

2.封装形式及管脚定义

SOP16(SOIC-16)/DIP16 双列封装形式:

DIP- 16



SOP-16
(SOIC-16)



图 1 ULN2003ADR 电路外形图

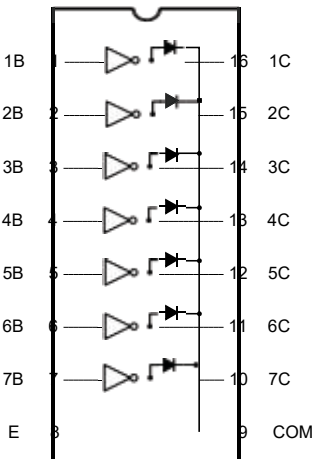


图 2 ULN2003ADR管脚定义图

3.最大额定值

表 1 最大额定值

符号	参数	最大额定值	单位
Vo	输出电压	50	V
Vin	输入电压	30	V
Ic	输出电流	500	mA
Ib	输入电流	25	mA



4.电路原理图

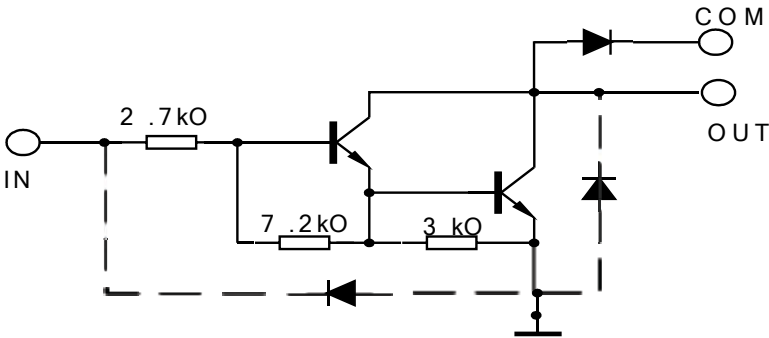


图3 ULN2003ADR 电路原理图

5.电参数

表 2 测试电参数

Symbol	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 饱和压降	I _C =100mA , I _B =250μA	—	0.9	1.1	V	Figure 2.
		I _C =200mA , I _B =350μA	—	1.1	1.3		
		I _C =350mA , I _B =500μA	—	1.3	1.6		
I _{i(on)}	输入开启电流	V _i =3.85V	—	0.93	1.35	mA	Figure 3.
V _{i(on)}	输入开启电压	V _{CE} =2.0V , I _C =200mA	—	—	2.4	V	Figure 5.
		V _{CE} =2.0V , I _C =250mA			2.7		
		V _{CE} =2.0V , I _C =300mA			3.0		
I _R	二极管漏电流	V _R =50V	-4.0	—	50.0	μA	Figure 6.
V _F	二极管正向压降	I _F =350mA	—	1.7	2	V	Figure 7.
I _{CEX-1V}	输出漏电流	V _{CE} =50V , V _i =1V	-5	—	80	μA	Figure 1b.



测试线路图

Figure 1a.

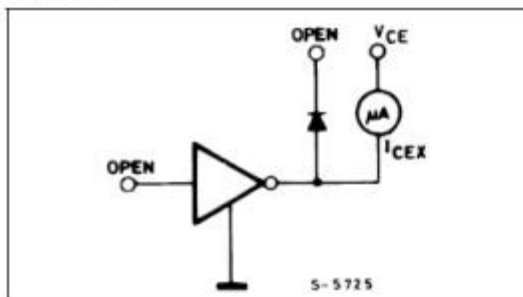


Figure 1b.

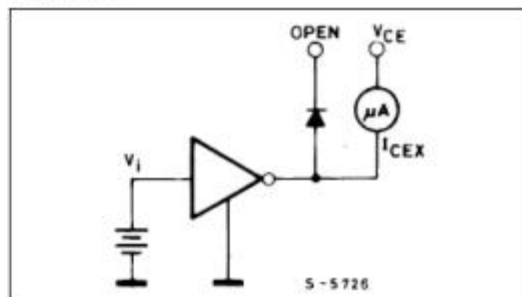


Figure 2.

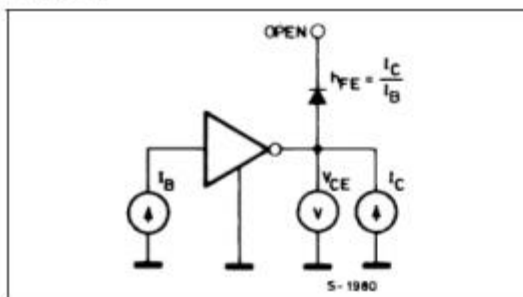


Figure 3.

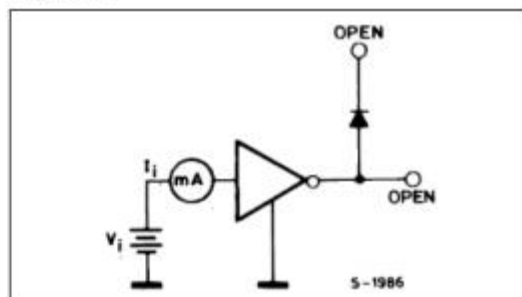


Figure 4.

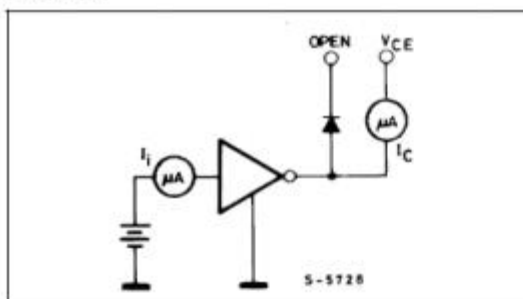


Figure 5.

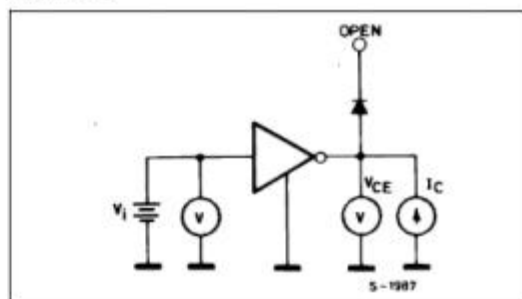


Figure 6.

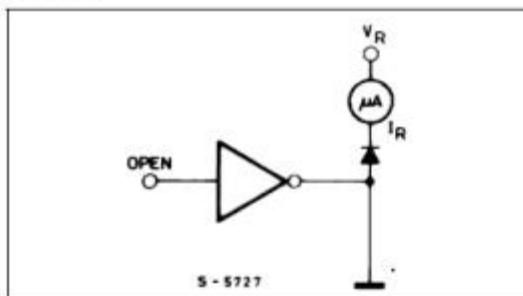
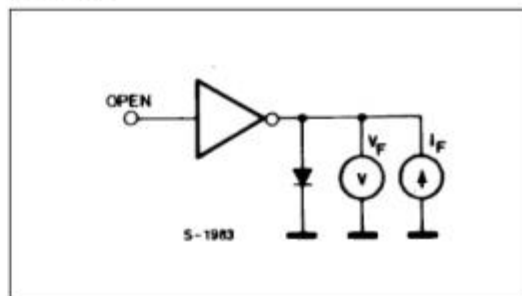


Figure 7.





7.特性曲线图

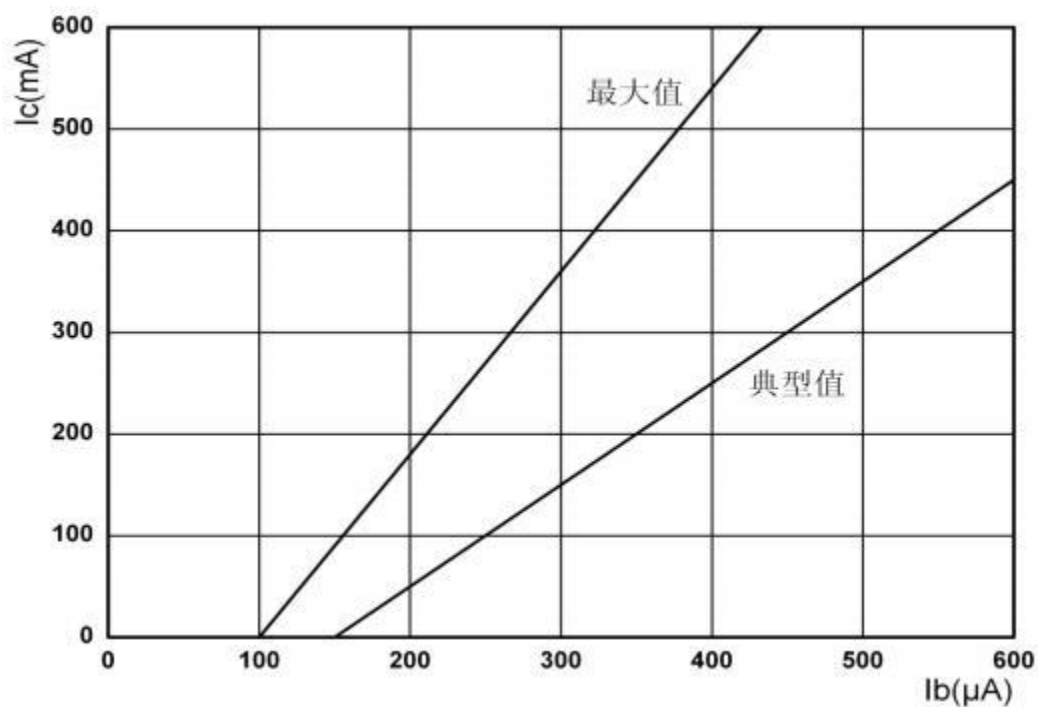


图 4 输出电压和输入电流特性曲线图

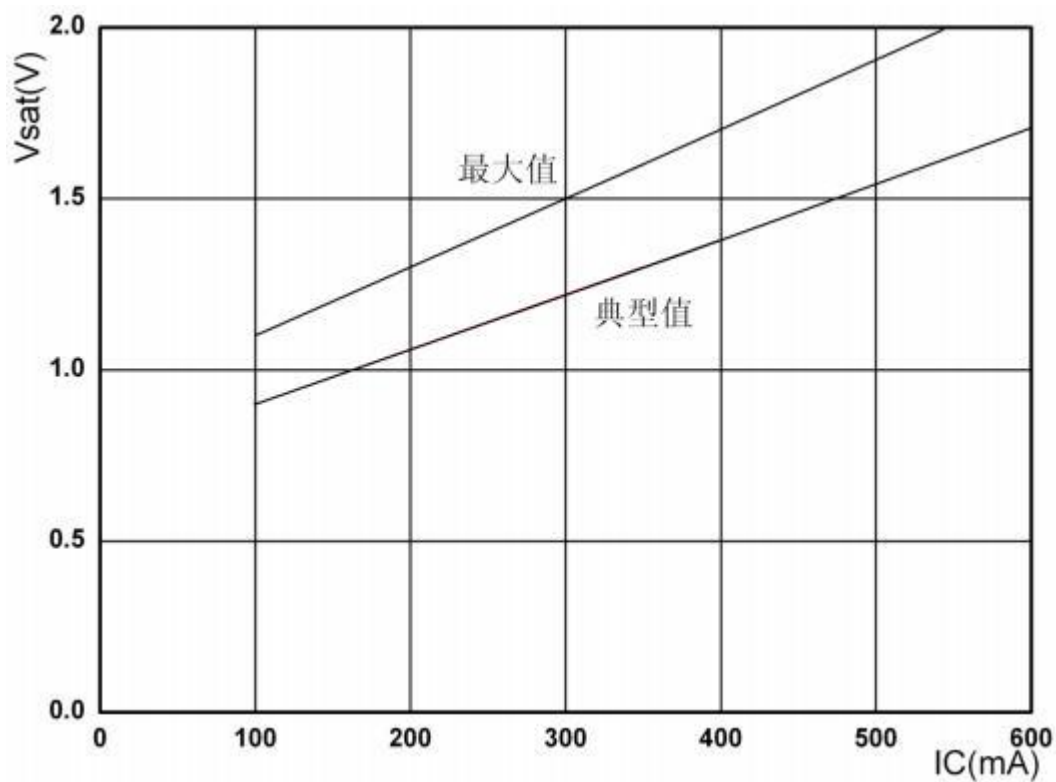
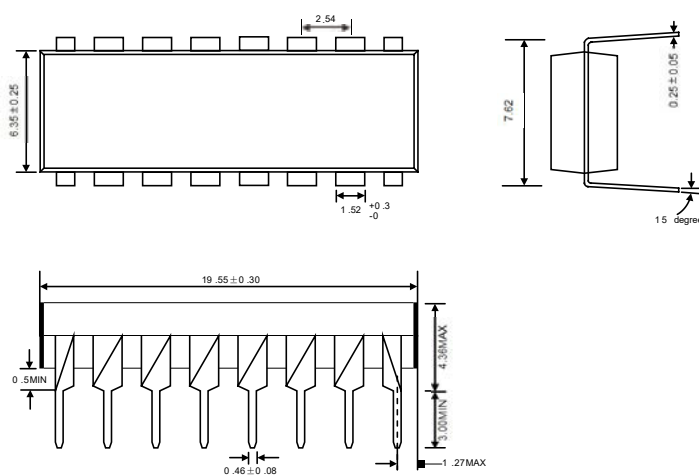


图 5 饱和压降和输出电压特性曲线图

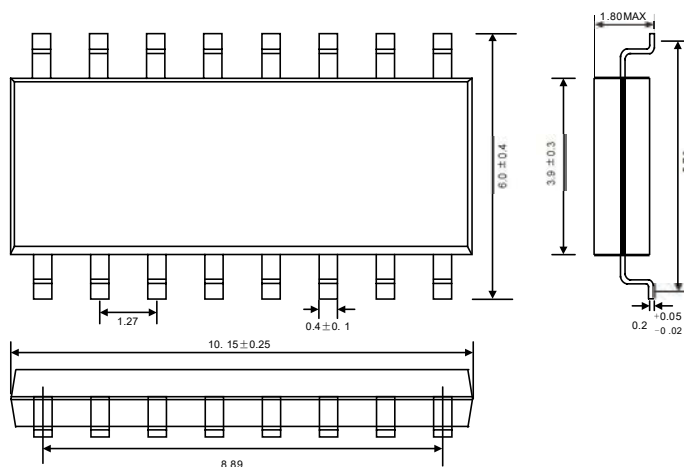


8.封装信息及尺寸

DIP-16



SOP- 16 (SOIC-16)



注：尺寸单位为MM

图 6 ULN2003ADR 封装及尺寸图



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