

## YDS1006D/S6——60V 2000mA Opto-MOS

### 概述/ Features

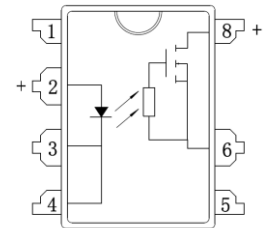
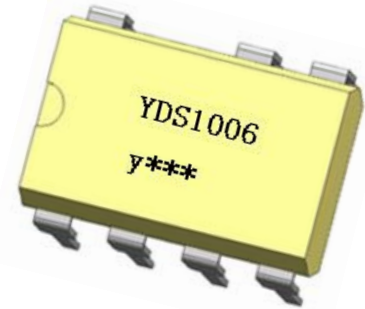
- 光电隔离/ optoelectronic isolation
- 负载电流最大为2000mA/Max load current 2000mA
- 负载耐压60V/High load voltage 60V
- 介质耐压3750V / Dielectric Strength 3750V
- 符合RoHS/RoHS compliant

### 获得认证/ Agency Approvals

- UL
- cUL -
- TUV -

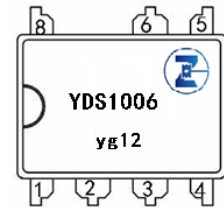
### 应用/Applications

- 高速检测设备/high-speed inspection machines
- 程控交换设备/telephone equipment
- 计算机/computer.



### 打印标志/Marking Information

Part Number	Package	Marking
YDS1006D7	DIP7	YDS 1006
YDS1006S7	SMD7	YDS 1006



### 极限值/Absolute Maximum

(Ta=25°C)

特性参数/Parameter		符号/Symbol	测试条件/Test condition	最小值/Min.	典型值/Typ.	最大值/Max.	单位/Unit
输入端/Input	正向电压/LED forward current	$V_F$	$I_F=10mA$		1.15		V
	反向电压/LED reverse voltage	$V_R$	$V_R=5V$			10	$\mu A$
	功耗/Power dissipation	$P_{in}$				50	mW
输出端/Output	断态泄漏电流/Output off-state leakage current	$I_R$	$V_D=60V$			1000	nA
	功耗/Power dissipation	$P_{out}$				900	mW
	额定连续电流/ Continuous rating current	I			900	2000	mA
	峰值电流/Peak current	I	A connection: 100 ms (1 shot), VL = DC		2800		mA

## 电参数/ Electrical Parameters

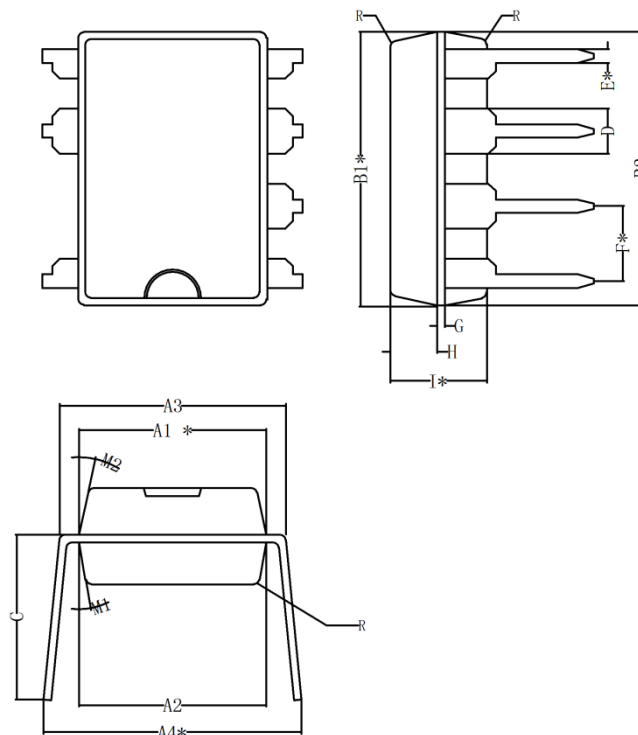
(Ta=25℃)

特性参数/Parameter	符号 /Symbol	测试条件 /Test condition	最小值 /Min.	典型值 /Typ.	最大值 /Max.	单位 /Unit
耦合特性 /Transfer characteristics	LED 触发电流/trigger current	$I_{FT}$	$V=\pm 5V$	3.5	5	mA
	导通电阻/Output on-state resistance	$R_{ON}$	$I_F=10mA, I_V=1000mA$	0.06	0.1	$\Omega$
	导通时间/Turn on time	$t_{on}$	$I_F=10mA, I_V=400mA$	0.5	2	ms
	关断时间/Turn off time	$t_{off}$	$I_F=10mA, I_V=400mA$		1	
	介质电压/ I/O Dielectric Strength	$V_{ISO}$	$I_{off}\leq 0.3mA$	3750		$V_{rms}$
	电容/ I/O capacitance	C			300	pF
储存温度/Store temperature	T		-40		125	$^{\circ}C$
		工作温度/Operating temperature		-40		

备注：1、介质电压超过 3000V 建议在油里测试。在测试前请务必确认输入端和输出端已经分别短路

## 外形尺寸/Outline dimension :mm

### 1、DIP

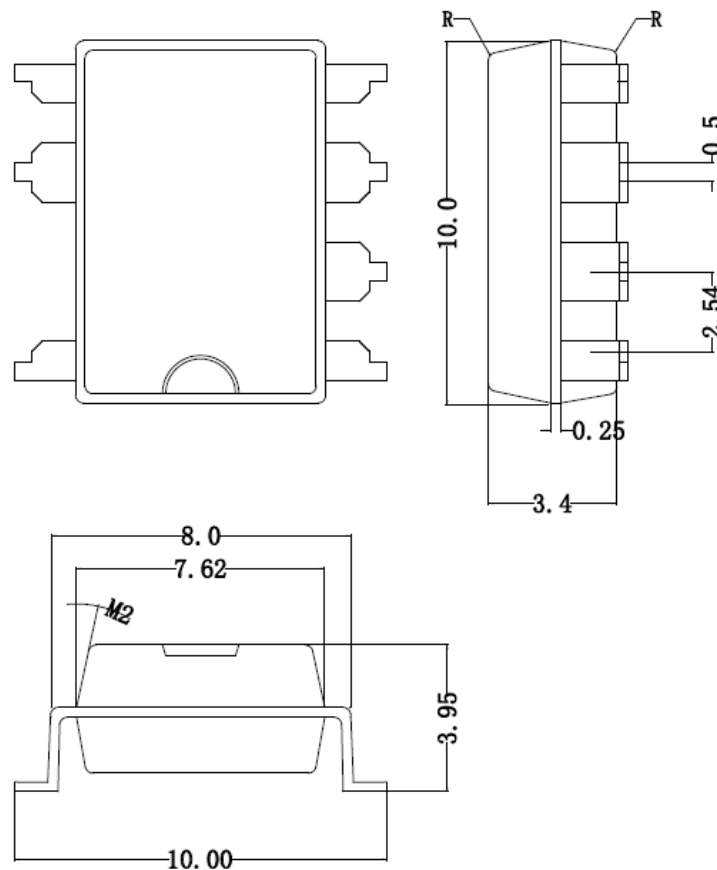


符号	最小	典型	最大	符号	最小	典型	最大
A1*	6.13	6.33	6.53	E*	0.34	0.42	0.50
A2	6.22	6.42	6.62	F*		2.54	
A3	7.32	7.62	7.92	G		0.25	
A4*	8.10	8.40	8.70	H	1.39	1.59	1.79
B1*	9.00	9.20	9.40	I*	3.07	3.27	3.47
B2	9.05	9.25	9.45	R		0.20	
C		5.57		M1		10°	
D		1.52		M2		12°	

注1: 未注公差请按±0.2;  
注2: 带“\*”尺寸为关键尺寸。

## 2、SMD

未注公差请按±0.2:



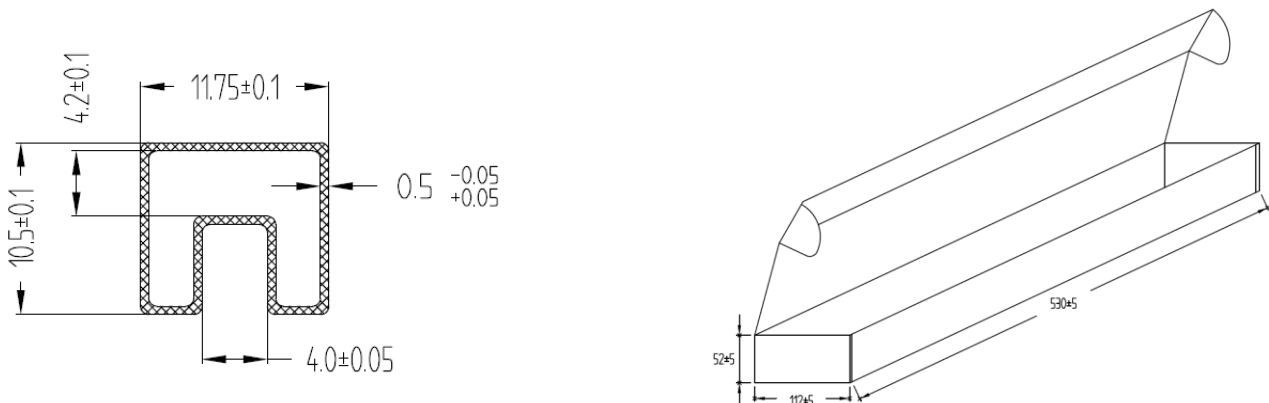
### 订货信息/Ordering Information :

订货标记示例/Order information							
	Y	DS	B/	100	6	D	7
公司商标代号 Company symbol							
MOS 输出型 SSR							
常开型 normal open: 默认 nil 常闭型 normal close: B							
负载电流 load current: 40—400mA; 100—1000mA							
击穿电压 BVDSS: 6—60V; 10—100V; 20—200V; 35—350V; 50—500V							
D: DIP		S: SMD					
4: PIN		6: 6PIN		7: 7PIN			

### 包装信息/Package specification

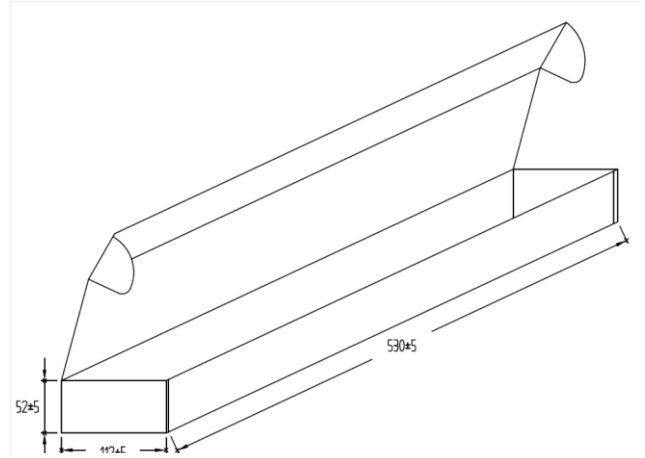
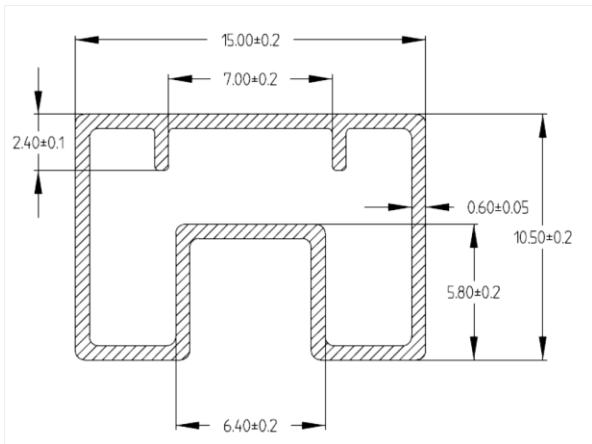
#### DIP:

每管最多装50个/MAX. 50pcs of products shall be packaged in a sleeve;  
每盒最多装40条/MAX. 40 sleeves in one case.



#### SMD:

每管最多装50个/MAX. 50pcs of products shall be packaged in a sleeve;  
每盒最多装30条/MAX. 30 sleeves in one case.



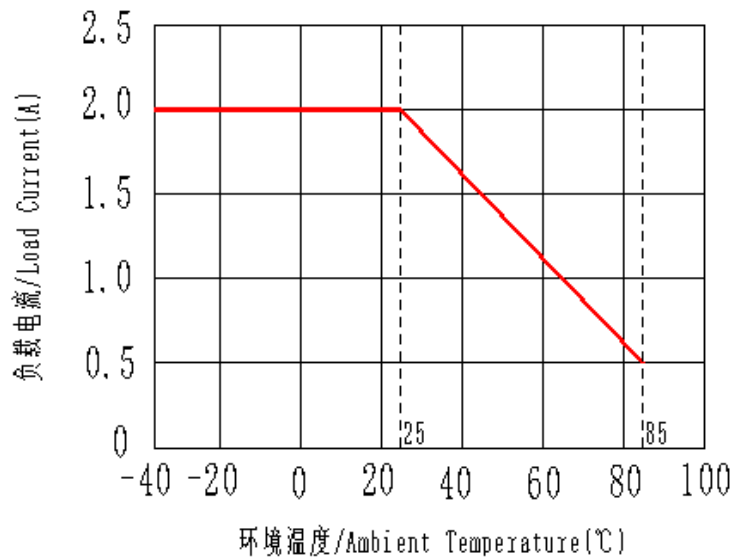
### 安规要求/Safety and Insulation Ratings

爬电距离	Creepage distance	5.0mm, CTI $\geq$ 275;
瞬时过电压	Highest allowable overvoltage	5000V;
再现峰值电压	$V_{IORM}$	769V;
局部放电	Partial discharge test voltage Method b, $V_{Pd} = V_{IORM} \times 1.6$	1230V.

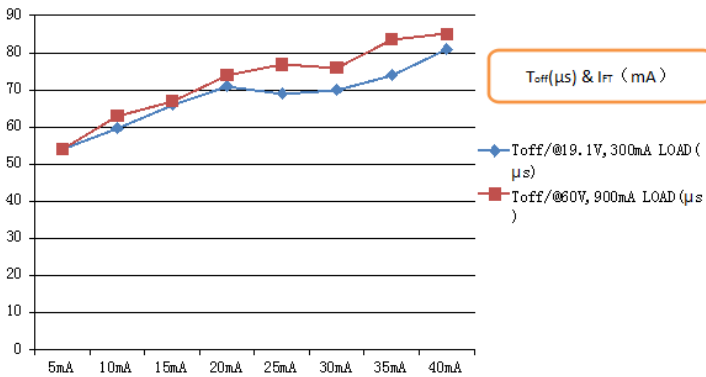
### 特性曲线/Characteristic Data

#### 1. 负载电流与环境温度关系曲线

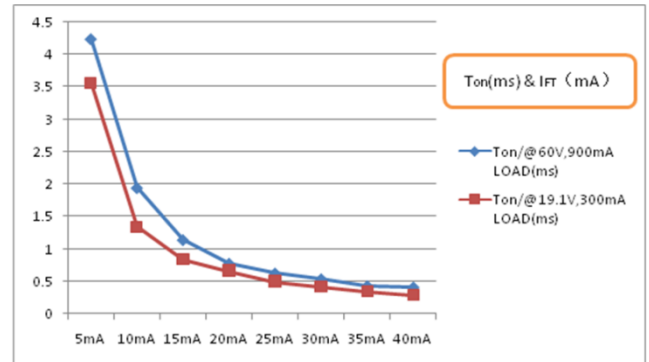
Load current VS. Ambient temperature



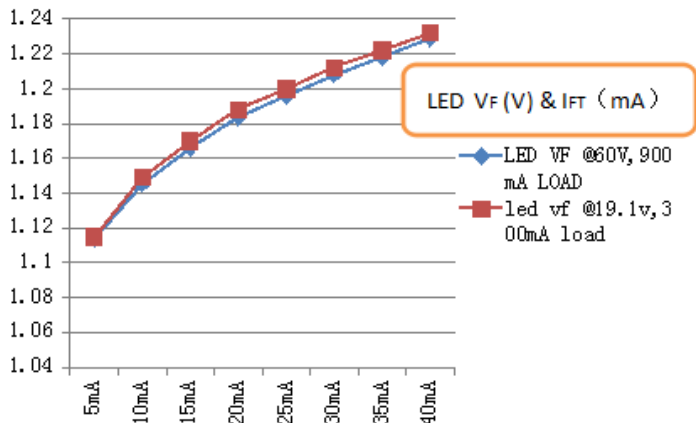
2. Turn off time vs. input current characteristics:  
Load voltage: 19.1V and 60V. (DC);  
Continuous load current: 300mA and 900mA (DC)



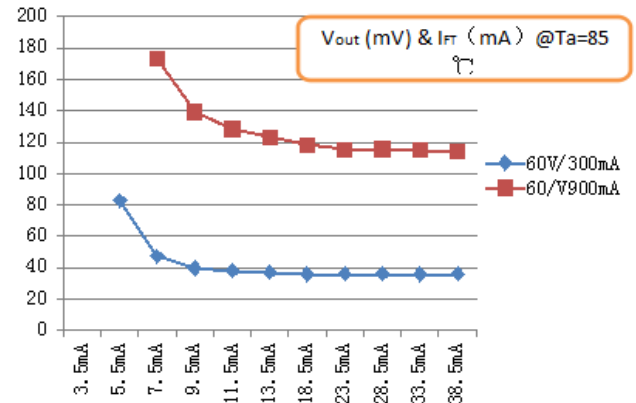
3. Turn on time vs. input current characteristics  
Load voltage: 19.1V and 60V. (DC);  
Continuous load current: 300mA and 900mA (DC)



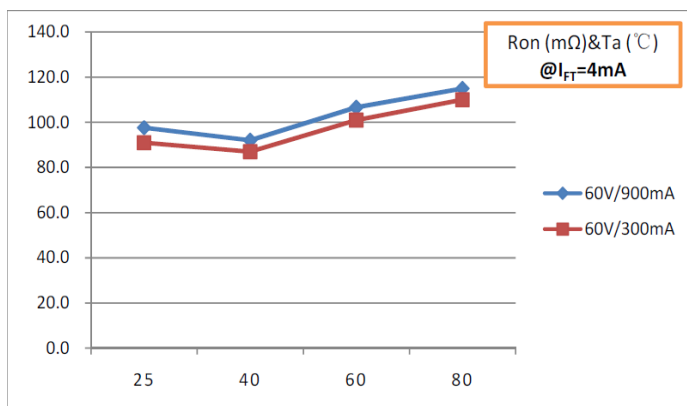
4. Input voltage vs. input current characteristics  
Load voltage: 19.1V and 60V. (DC);  
Continuous load current: 300mA and 900mA (DC)



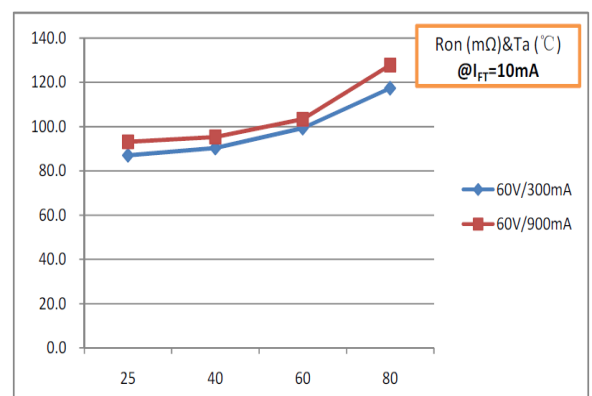
5. Vout vs. input current characteristics  
Load voltage: 19.1V and 60V. (DC);  
Continuous load current: 300mA and 900mA (DC)



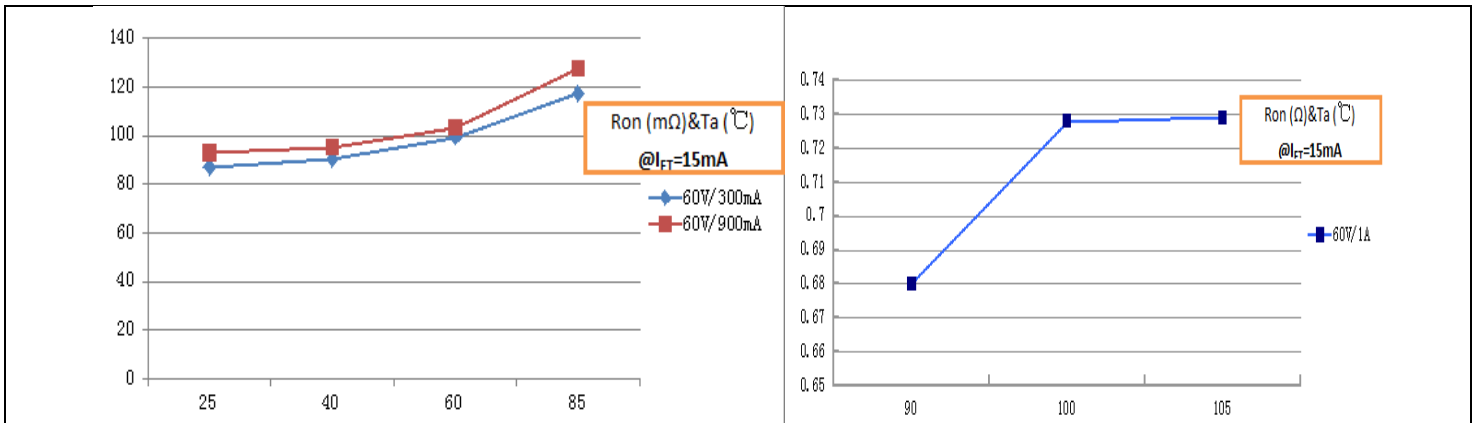
6. On resistance vs. ambient temperature characteristics  
Measured pin between terminals 4 and 5, 5 and 6;  
LED current: 4 mA; Load voltage: 19.1V and 60V. (DC);  
Continuous load current: 300mA and 900mA (DC)



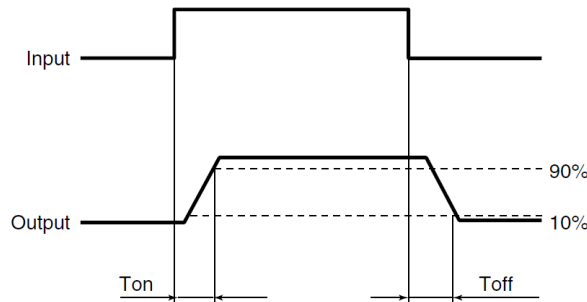
7. On resistance vs. ambient temperature characteristics  
Measured pin between terminals 4 and 5, 5 and 6;  
LED current: 10 mA; Load voltage: 19.1V and 60V. (DC);  
Continuous load current: 300mA and 900mA (DC)



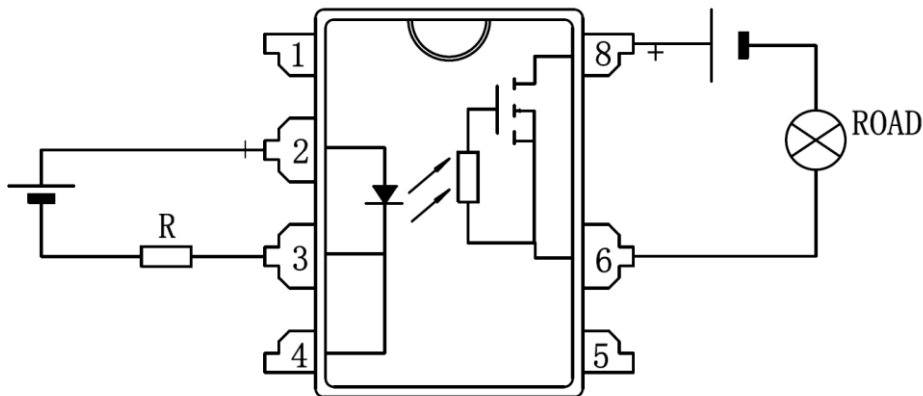
8. On resistance vs. ambient temperature characteristics  
Measured pin between terminals 6 and 8  
LED current: 14 mA; Load voltage: 19.1V and 60V. (DC);  
Continuous load current: 300mA and 900mA (DC)



### 接通和关断时间关系 Turn on/Turn off time



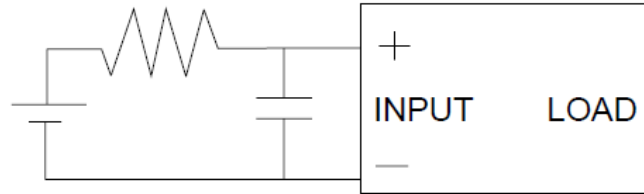
### 接线图/Wiring diagram



### 注意事项 /Notes

- 工作环境温度超过 25°C 时请降额使用，降额曲线参考附件。  
When ambient temperature is above 25°C, the load current must be reduced. (see Characteristic Data 1)
- 继电器接线时，务必保证输入端极性的正确，以免损坏继电器。  
Ensuring the polarity is correct when connecting the input lines, otherwise the wrong connection will damage the relay.

- c) 由于 SSR 动作时间很短，输入端的噪声可能会引起 SSR 误动作，所以在输入端环境噪声较大时，应在输入端接 R/C 回路吸收噪声。
- d) Since the operate time of the relay is extremely short, any noise to input terminal will cause malfunction of the SSR, So a RC circuit should be connected to input terminal to absorb the noise in the noisy condition.



- e) 推荐的使用电路，输出端的尖峰电压可能会引起 SSR 误动作，所以请在输出端应加 R/C 回路或压敏电子吸收尖峰电压，具体见下图：
- f) Below shows a recommend circuit: Please add a RC circuit or varistor on the load side, as noise/surge could damage the unit or cause malfunctions.

## 关于防静电对策/Cautions for Static Electricity

- g) a. 使用电烙铁时，对电烙铁前端进行接地。(建议使用低电压用的电烙铁。) When using soldering irons, either use irons with low leakage current, or ground the tip of the soldering iron. (Use of low-voltage soldering irons is also recommended.)
- h) b. 组装时使用的设备等也应正确地接地。Devices and equipment used in assembly should also be grounded.

## 关于焊接/soldering

继电器焊接,260 度情况下焊接时间不能超过 10 秒钟,350 度情况下焊接时间不能超过 5 秒钟。  
Soldering must be completed within 10 seconds at 260°C or within 5 seconds at 350°C.



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