

## FEATURES特点

- Subminiature automotive relay with reliability.  
超小型汽车用可靠性高的继电器
- High performance / Low profile. 高效果/小外形.
- Nominal power 360mW. 正常功耗 360mW.
- Operating power 200mW. 动作功耗 200mW.
- Three kinds of resistance 180 Ω, 320 Ω and 400 Ω for selection with coil voltage 12VDC.  
直流12V线圈, 有三种阻抗180 Ω, 320 Ω及 400 Ω可供选择



## CONTACT RATING 接口参数

Contact form接口形式	1A SPST-NO	1C SPDT
Max Switching Power最大切换功率	210W	
Max. Switching Voltage最大切换电压	14VDC	
Max. Switching Current最大切换电流	15A	
Min. Switching Current/Voltage最小切换电流/电压	100mA 5VDC	
Max. Carrying Current最大运送电流	15A	NO: 15A / NC: 10A
Max. Make Current最大接通电流	15A	NO: 50A / NC: 15A
Max. Break Current最大断开电流	15A	NO: 15A / NC: 10A
Contact Material接点材质	Ag Alloy银合金	

## CHARACTERISTICS 性能参数

Electrical Life 电气寿命	1 × 10 <sup>5</sup>	
Mechanical Life机械寿命	1 × 10 <sup>7</sup>	
Insulation Resistance绝缘阻抗	Min. 100MΩ 500VDC	
Contact Resistance(Initial)接触电阻	≤ 100mΩ (6VDC 1A)	
Operate Time 动作时间	≤ 10ms	
Release Time 开放时间	≤ 5ms	
Initial Dielectric Strength 耐压	between open contacts开放接点间: 50/60Hz 750VAC 1min. between contacts and coil接点线圈间: 50/60Hz 1500VAC 1min.	
Vibration Resistance 耐振动	Malfuction: 误动作:	10 ~ 55Hz Double Amplitud双振幅 1.5mm
	Damage limits: 耐久:	10 ~ 55Hz Double Amplitud双振幅 1.5mm
Shock Resistance 耐冲击	Malfuction: 误动作:	10G
	Damage limits: 耐久:	100G
Ambient Temperature环境温度	-40°C ~ +85°C (No freezing 无结冰)	
Relative Humidity相对湿度	85% at 40°C	
Unit Weight单位重量	约Approx. 10g	

## ORDERING INFORMATION 型号代码说明

963 - 1C - 12 D S	
1   2   3   4   5	
1. Model Number 型号 2. Contact Arrangement. 接点形式 1A = 1 Form A 1组常开 1C = 1 Form C 1组转换 3. Coil Voltage 线圈电压 3、5、6、9、12、18、24、48VDC	4. Coil Type 线圈形式 D=DC 直流 5. Enclosure 密封形式 Nil = General Type 普通型 S = Sealed Type 密封型

## COIL RATINGS (at 20°C) 线圈额定值 (在20°C)

COIL TYPE 线圈形式	Coil Nominal Voltage 线圈额定电压 (V)	Coil Resistance 线圈阻抗 ( $\Omega \pm 10\%$ )	Pick-Up Voltage 动作电压(V) (Max)	Drop-Out Voltage 开放电压(V) (Min)	Nominal Current 额定电流 (mA)
DC Standard Coils 直流标准线圈 (abt. 0.36W)	3	25	2.25	0.3	120
	5	70	3.75	0.5	71
	6	100	4.5	0.6	60
	9	225	6.75	0.9	40
	12	400	9	1.2	30
	18	900	13.5	1.8	20
	24	1600	18	2.4	15
	48	6400	36	4.8	7.5
Special Coils (I) 特规线圈 (I) (abt. 0.8W)	3	11.3	2.25	0.3	265
	12	180	9	1.2	67
	24	720	16.5	2.2	33.3
	48	2880	36	4.8	16.7
Special Coils (II) 特规线圈 (II) (abt. 0.45W)	12	320	9	1.2	37.5

\* Max Continuous Voltage at 20°C: 110% of Coil Normal Voltage.

最大使用电压在20°C:线圈额定电压的110%

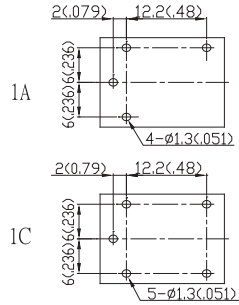
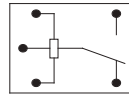
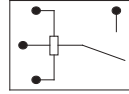
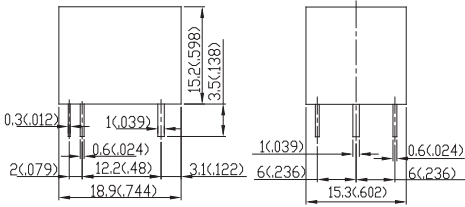
## OUTLINE DIMENSIONS 外部尺寸

UNIT: mm(inch) 单位: 毫米(英寸)

Dimensions尺寸

Internal Connections接线图  
(Bottom View底视图)

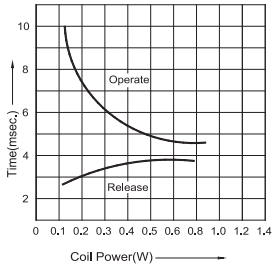
Drilling Plan孔位图  
(Bottom View底视图)



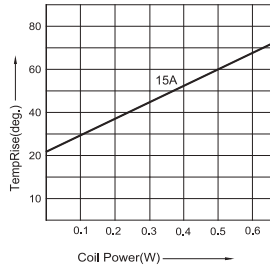
REMARK: Dimensions  $\leq 5\text{mm} \pm 0.2\text{mm}$ ,  $> 5\text{mm} \pm 0.3\text{mm}$ , the tolerance of PCB thru hole:  $+0.2\text{mm}$   
备注: 尺寸公差  $\leq 5\text{mm} \pm 0.2\text{mm}$ ,  $> 5\text{mm} \pm 0.3\text{mm}$ , 印刷电路板孔 $+0.2\text{mm}$

## 963 Reference Data 参考资料

Timing



Coil Temperature Rise



Life Curves

