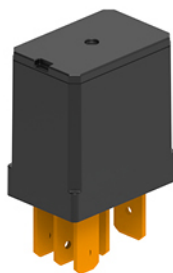


MAA

汽车及新能源类

Automotive and New Energy

- 35A 触点切换能力
- 工作温度高达 125℃
- 具有一组常开，一组转换触点形式
- 防尘罩和塑封型可供选择
- 外形尺寸 L × W × H: 23 × 15.5 × 25mm
- 35A Switching capability
- Ambient temp.can up to 125℃
- 1 Form A, form C contact Arrangement
- Dust protected type and sealed type available
- Outline dimensions L × W × H: 23 × 15.5 × 25mm



	MAA	-	S	-	1	-	12	-	C	-	R
产品型号 Model	产品结构 Structure	触点组数 Contact Group	线圈电压 Coil Voltage	触点形式 Contact Form	线圈并联元件 Parallel Coil Components						
	S: 塑封型 无 Nil: 防尘罩型 S: Sealed Nil: Dust Protected	1: 1 组 1: 1 Group	12: 12VDC 24: 24VDC	A: 常开 C: 转换 A: NO C: NO/NC	无: 无并联元件 R: 并联电阻 R: With Resistor D1: 并联二极管 (阳极接 #86) D2: 并联二极管 (阳极接 #85) Nil: Without parallel components D1: With Parallel Diode(Anode on 86) D2: With Parallel Diode(Anode on 85)						

触点参数 Contact Parameters

触点形式 Contact Arrangement	1A, 1C
触点材料 Contact Material	银合金 Silver Alloy
接触压降 Voltage Drop(初始 Initial)	NO: 典型值 Typ.15mV, 最大值 Max.300mV NC: 典型值 Typ.25mV, 最大值 Max.300mV
最大连续电流 Max.Continuous Current	NO: 35A NC: 20A
最大切换电压 Max.Switching Voltage	40VDC
电气寿命 Electrical Life	见附表 1 See schedule 1
机械寿命 Mechanical Life	1 × 10 ⁶ 次 OPS

性能参数 Characteristics

绝缘电阻 Insulation Resistance	100MΩ(500VDC)
介质耐压 Dielectric Strength	触点与线圈间 Between Coil, Contacts: 500VAC 1min 断开触点间 Between Open Contacts: 500VAC 1min
动作时间 Operate Time	≤10ms
释放时间 Release Time	≤10ms
环境温度 Ambient Temperature	-40℃ ~+125℃
振动 Vibration	10Hz~500Hz 49m/s ² (5G)
冲击 Shock	196m/s ² (20G)
引出端方式 Terminal Form	快速接式引出端 QC
封装形式 Construction	防尘罩型 Dust Protected, 塑封型 Sealed
重量 Unit Weight	约 Approx.: 22g
机械性能 Mechanical Data	外壳保持力: (拉和压)200N Cover Retention: (Pull, Push)200N 引出脚保持力:(拉和压)100N Terminal Retention:(Pull, Push)100N 引出脚抗弯曲力:(各方向)10N Terminal Resistance To Bending:(Front, Side)10N

线圈规格表 Coil Data(23°C)

额定电压 Rated Voltage VDC	动作电压 Operate Voltage VDC	释放电压 Release Voltage VDC	线圈电阻 Coil Resistance $\Omega \pm 10\%$	线圈功率 Coil Power W	并联电阻 Parallel Resistance $\Omega \pm 10\%$	等效电阻 Equivalent Resistance $\Omega \pm 10\%$	允许最大线圈电压 (1) Max.Allowable Overdrive Voltage VDC	
							20°C	85°C
12	≤8.4	≥1.2	90	约 Approx. 1.6	-	-	20	15
12	≤8.4	≥1.2	90	约 Approx. 1.8	680	79.5	20	15
24	≤16.8	≥2.4	360	约 Approx. 1.6	-	-	40	30
24	≤16.8	≥2.4	360	约 Approx. 1.8	2700	317.6	40	30

注意：(1) 触点无负载电流，线圈电阻为最小值情况下，继电器线圈允许施加的最大连续工作电压。

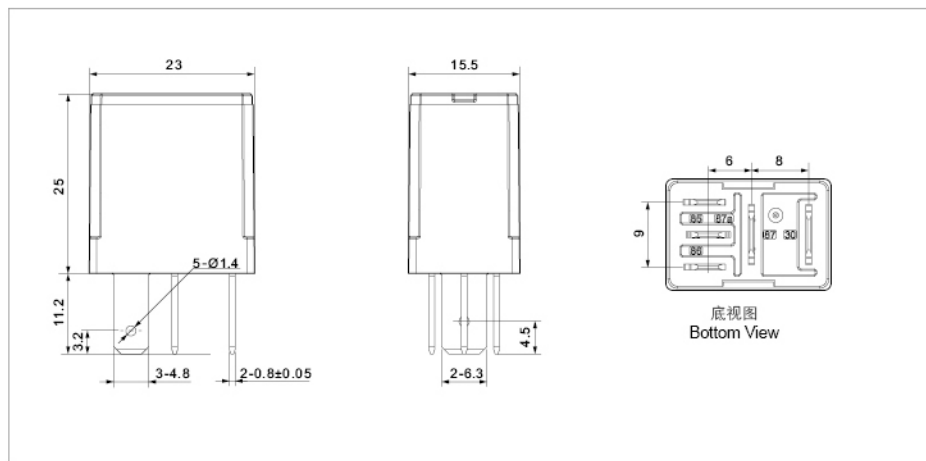
Be careful:(1)Max.Allowable overdrive voltage is stated with no load applied minimum coil resistance.

附表 1 Schedule 1

负载电压 Load Voltage	负载类型 Load Type		负载电流 A Load Current			通断比 s On/Off Ratio		电耐久性 (次 OPS) Electrical Endurance	试验环境 温度 Ambient Temp.
			1C		1A	接通 On	断开 Off		
			常开 NO	常闭 NC	常开 NO				
14VDC	阻性 Resistive	接通 Make	35	20	35	2	2	1×10^5	详见电耐久性 试验环境 温度曲线 See Ambient Temp. Curve
		断开 Break	35	20	35	2	2	1×10^5	
	感性 Flasher	接通 Make	40	20	40	2	2	1×10^5	
		断开 Break	20	10	20	2	2	1×10^5	
	灯 Lamp	接通 Make	100	-	100	2	2	1×10^5	
		断开 Break	20	-	20	2	2	1×10^5	
28VDC	阻性 Resistive	接通 Make	20	10	20	2	2	1×10^5	
		断开 Break	20	10	20	2	2	1×10^5	
	感性 Flasher	接通 Make	38	28	38	2	2	1×10^5	
		断开 Break	15	6	15	2	2	1×10^5	
	灯 Lamp	接通 Make	70	-	70	2	2	1×10^5	
		断开 Break	7	-	7	2	2	1×10^5	

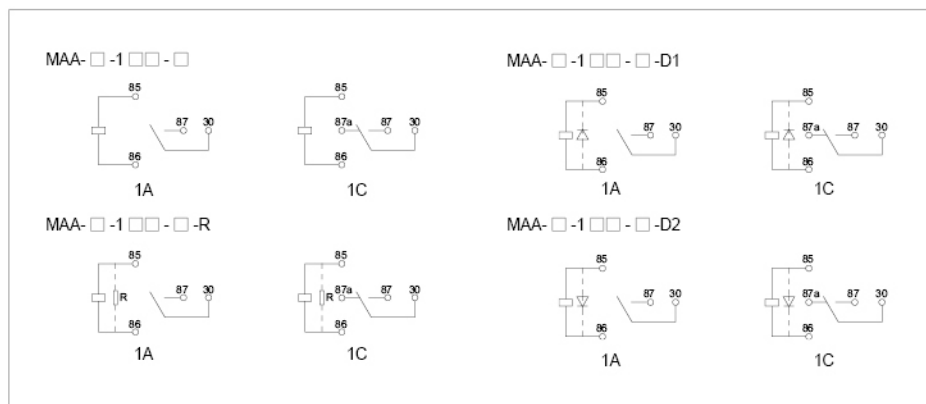
外形尺寸 / 安装孔尺寸 (底视图) Outline Dimensions/PCB Layout (Bottom View)

单位 Unit: mm



接线图 (底视图) Wiring Diagram (Bottom View)

单位 Unit: mm



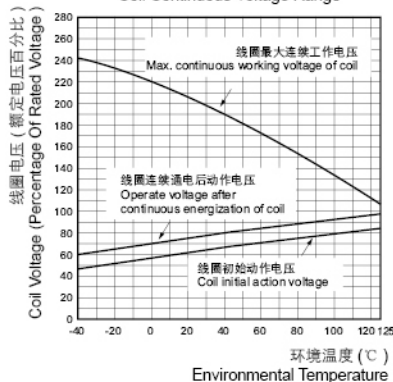
备注: (1) 产品部分外形尺寸未注尺寸公差, 当外形尺寸 $\leq 1\text{mm}$, 公差为 $\pm 0.2\text{mm}$;
当外形尺寸在 $1\sim 5\text{mm}$ 之间时, 公差为 $\pm 0.3\text{mm}$; 当外形尺寸 $> 5\text{mm}$ 时, 公差为 $\pm 0.4\text{mm}$;
(2) 安装孔尺寸中未注尺寸公差均为 $\pm 0.1\text{mm}$ 。

REMARK:

(1) In case of no tolerance shown in outline dimension: outline dimension $\leq 1\text{mm}$, tolerance should be $\pm 0.2\text{mm}$; outline dimension $> 1\text{mm}$ and $\leq 5\text{mm}$, tolerance should be $\pm 0.3\text{mm}$; outline dimension $> 5\text{mm}$, tolerance should be $\pm 0.4\text{mm}$;
(2) The tolerance without indicating for PCB layout is always $\pm 0.1\text{mm}$.

性能曲线图 Performance Curve

线圈连续通电电压范围
Coil Continuous Voltage Range



说明:

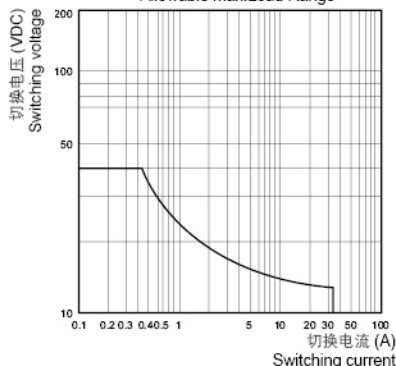
- (1) 动作电压与线圈预通电电压有关, 预通电后检查动作电压, 其值会变大。
- (2) 线圈最大允许温度为 180℃, 考虑到电阻法所测量的线圈温升是平均值, 推荐在不同使用环境, 不同线圈电压, 不同负载条件下测量时, 线圈温度应小于 170℃。
- (3) 当线圈实际工作电压超出曲线规定范围时, 请联系美硕并提供相应详细使用条件。

(1)The operating voltage is connected with coil pre-energized time and voltage. After pre-energized, the operating voltage will increase.

(2)The Maximum allowable coil temperature is 180℃. For the coil temperature rise which is measured by resistance is average value, we recommend the coil temperature should be below 170℃ under the different application ambient, different coil voltage and different load etc.

(3)If the actual operating coil voltage is out of the specified range please contact meishuo for further details.

允许最大负载范围
Allowable Max. Load Range



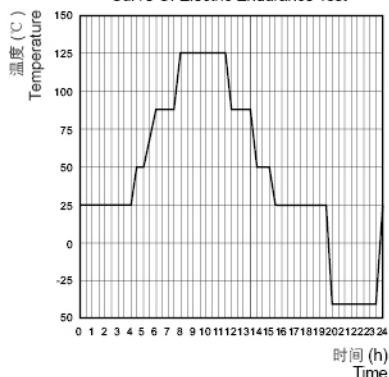
说明:

产品按触点参数表进行负载与耐久性试验, 当实际使用的负载电压, 电流, 动作频率任一项与触点参数表不同时, 请重新进行确认试验。

The product shall be tested for load and durability according to the contact parameter table.

When any item of load voltage, current and action frequency actually used is different from the contact parameter table, please conduct the test again.

电耐久试验环境温度曲线
Environmental Temperature Curve Of Electric Endurance Test



说明:

- (1) 最低温度为 -40℃
- (2) 最高温度为 125℃

(1)The minimum temperature is -40℃.

(2)The Maximum temperature is 125℃.