

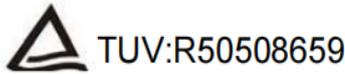
GRF-80A系列 Seris

汽车继电器
Automobile relay



产品特点

- 80A触点切换能力
80A contact switching capacity
- 工作温度高达125°C
Operating temperature up to 125°C
- 塑封和防尘罩型可供选择
Plastic and dust cover types available
- 外形尺寸26*26*24.5mm
Dimensions 26 * 26 * 24.5mm



触点负载 Contact Rating	
触点形式 contact form	1A
触点材料 contact material	银合金 AgSnO2
额定负载(阻性) Rated load (Resistance)	80A 14VDC
最大切换电流 Max. switching Current	80A
最大切换电压 Max. Switching Voltage	30VDC
最大切换功率 Max. switching power	1120W

安规认证	
TUV R50508659	80A 14VDC

典型用途

- 后窗除雾器、电池断路装置、汽车空调、雾灯、大灯装置
- Rear window demister, battery circuit breaker, conditioner, fog lamp, headlamp device
- 电力分配、防抱死制动 (ABS)、牵引控制系统
- Power distribution, anti lock braking (ABS) traction control system
- 汽车应急启动电源
- Automobile emergency starting power supply

性能参数 Performance Parameter		
绝缘电阻 Insulation resistance		≤100MΩ Min(DC500V)
吸合时间 (额定电压下) Operate Time		10ms Max
释放时间 (额定电压下) Release Time		普通型 (Common type): 10ms Max 带电阻或二极管: ≤15ms Max With resistor or diode:
介质耐压 Dielectric Strength	断开的触点间BOC	500VAC 50/60Hz 1分钟 Min
	触点与线圈间BCC	500VAC 50/60Hz 1分钟 Min
接触电阻 ⁽¹⁾ Contact Resistance		100mΩ max
抗振动 Anti vibration		10HZ-55HZ 3mm 双振幅
抗冲击 Shock resistance		294m/m ²
寿命 life	机械寿命 Mechanical life	1×10 ⁷
	电气寿命 ⁽²⁾ Electrical life	5×10 ⁴ 阻性, 室温 1S ON/9S OFF
环境温度 ambient temperature		-40°C ~ +125°C (NO freezing)
重量 Weight		约36克 about 36g

备注: 1. 上述值为初始值
2. 对于塑封型产品试验时, 应打开透气孔
1. remarks: The above values are initial values
2. When experimenting with plastic encapsulated products, the vent holes on the housing should be opened

GRF-80A系列 Seris

汽车继电器
Automobile relay

线圈参数Coil Specification (at 23 °C)

额定电压 Nominal Voltage (VDC)	吸合电压 Pull-In Voltage (VDC)	释放电压 Drop-Out Voltage (VDC)	线圈电阻 Coil resistance × (1±10%) (Ω)	继电器功耗 Relay power consumption (W)	允许最大线圈电压 ⁽¹⁾ Maximum allowable voltage	
					23°C	85°C
12	≤8.4	≥0.6	90	1.6	20.2	15.7
12	≤8.4	≥0.6	80	1.8	20.2	15.7
24	≤16.8	≥1.2	360	1.6	40.5	31.5
24	≤16.8	≥1.2	320	1.8	40.5	31.5

备注：1. 触点无负载电流情况下时，继电器允许施加的最大连续工作电压；

1. When the contact has no load current, the relay is allowed to apply the maximum continuous working voltage

订货标记Ordering Information

GRF - S - 1 12 D M P 40 F R (XXX)										
1	2	3	4	5	6	7	8	9	10	11
1基本型号 Model Number: GRF	2封装形式 Encapsulation form:				8负载类型 Load type: 40-40A; 无-标准型 80A; 100: 100A					
S: 防尘罩型或防助焊剂型	3触点组数 Contact Group: 1: 1 组 1 Group				120:120A 150:150A					
Dust Protected or Anti-flux type	4线圈规格 Coil Voltage :				40-40A ; Nil:80A; 100:100A; 120:120A; 150:150A					
06: 6VDC 12: 12VDC 24: 24VDC	5线圈功率 Coil Power: D-1.6W, L-1.8W				9支架类型: 无-无支架型; F1-铁支架; F-塑料支架					
06: 6VDC 12: 12VDC 24: 24VDC	6触点形式 Contact form: M-1Form A				Bracket: Nil-No Bracket Standard; F1-Metal Bracket Standard; F-Plastic Bracket Standard					
06: 6VDC 12: 12VDC 24: 24VDC	7引出脚形式 Terminal:				10线圈并联元件: Parallel Coil Components					
P-PCB 引脚 无-快捷端子引脚	P-PCB Terminal; Nil-QC Terminal				无-标准型 R-并联电阻 D/DC-关联二极管(详见接线图)					
P-PCB Terminal; Nil-QC Terminal					Nil-Standard ; R-With Resistor; D/DC-With Parallel Diode(See wiring diagram for details)					
					11特性号 special Code:					
					特性号: XXX-字母或数字: 客户特殊要求; 无-标准型					
					XXX-Letters or numbers: customer specific requirements ; Nil-Standard					

备注：

1. 在洁净环境（不含H2S、SO2、NO2、粉尘等污染物）下使用时，推荐使用防焊剂型产品
2. 在污染焊剂（含一定量的H2S、SO2、NO2粉尘等污染物）下使用时建议选用塑封产品，并在实际使用中进行确
3. 当继电器装入PCB版焊接后，如需进行整体清洗或表面处理，请与我司联系，以便商定合适的焊接条件、合格的产品规格。

remarks:

- (1)When using in clean environment (without H2S SO2 NO2 dust and other pollutants), it is recommended to Use flux resistant products. When using in polluted environment(with a certain amount of H2S SO2 NO2dust and other pollutants), it is recommended to use plastic encapsulated products,please confirm in actual use.
- (2)After the relay is installed into the PCB board for welding, if it needs overall cleaning or surface treatment, please Contact me to negotiate the appropriate welding conditions and product specifications.

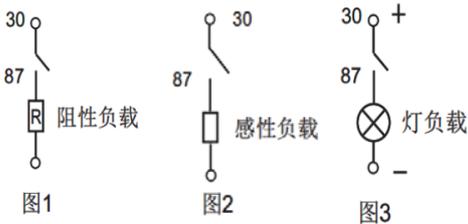
GRF-80A系列 Seris

汽车继电器
Automobile relay

类型type

触点负载电压 Contact load resistance	负载类型 Contact load		触点负载电流 Contact load current (A)	通断比 On-off ratio		电耐久性 (次) Electrical durability (second)	触点材料 Conact material	触点接线图 Contact wiring diagram	试验环境温度 Experimental ambient temperature
				接通 On(S)	断开 Off(s)				
标准型 14VDC	阻性 Resistance	接通Make	80	2	2	5×10 ⁴	AgSnO ₂	见图1	23℃ 详见电耐久性试验环境温度曲线 Xiangjian electric durability test ambient temperature curve
		断开Break	80						
	感性 perceptual	接通Make	150	2	4	5×10 ⁴	AgSnO ₂	见图2	
		断开Break	50						
	灯 lam	接通Make	200	0.5	10	5×10 ⁴	AgSnO ₂	见图3	
		断开Break	40						

负载接线图Load wiring diagram



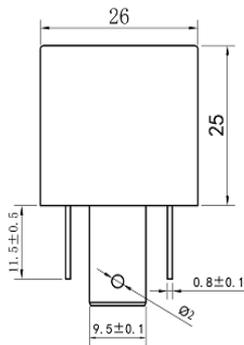
备注:

1. 接通电流指峰值电流
2. 当用于闪光灯负载时, 须采用特殊AgSnO₂触点, 接线时须注意正负极性要求, 确保30#端接电源正极;
3. 负载接线图如图所示
4. 本表中负载仅针对线圈不带并联二极管、稳压管等元件的情况。

外形尺寸、接线、安装孔位图

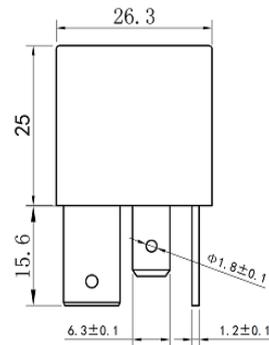
Overall dimension, wiring and installation hole bitmap

快连接式 (无支架)
QUICK (Nil-No Bracket)

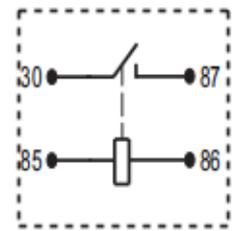
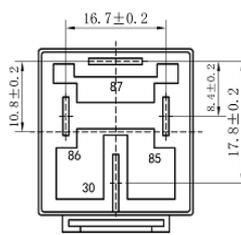


外形图

Outline Dimensions



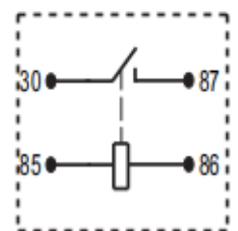
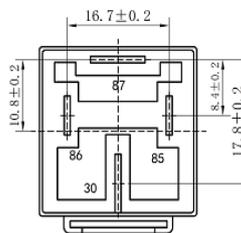
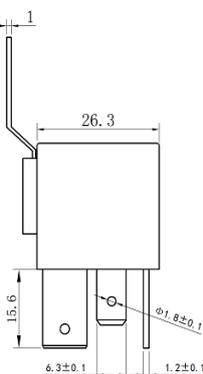
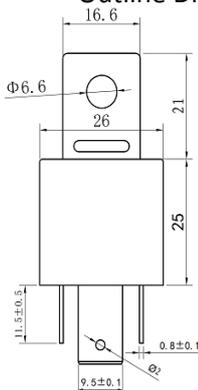
安装孔尺寸 (底视图)
PCB LAYOUT (Bottom View)



普通型

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

快连接式 (有支架)
QUICK (Bracket)



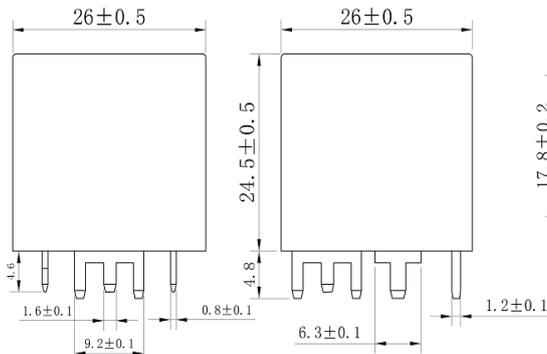
普通型

外形尺寸、接线、安装孔位图

Overall dimension, wiring and installation hole bitmap

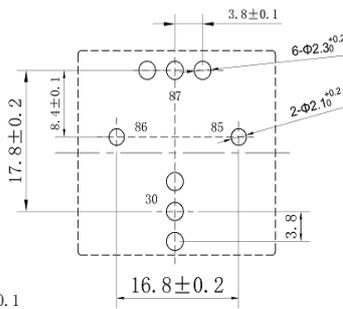
PCB板式

PCB board type



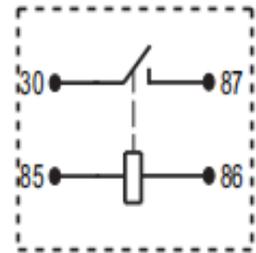
外形图

Outline Dimensions



安装孔尺寸 (底视图)

PCB LAYOUT (Bottom View)



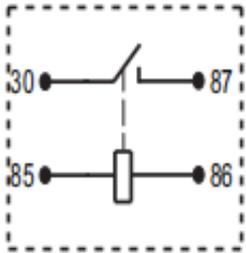
普通型

接线图 (底视图)

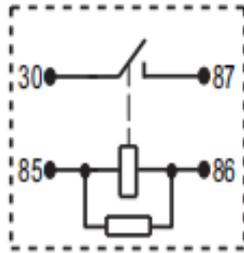
Wiring Diagram (Bottom View)

接线图 (底视图)

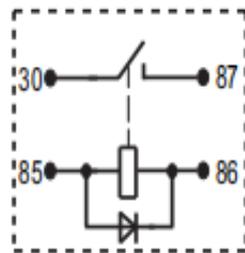
Wiring Diagram (Bottom View)



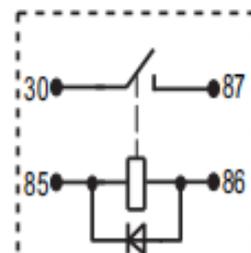
普通型



带电阻型



带二极管D型



带二极管DC型

备注:

1. 产品外形图的引脚标注尺寸为沾锡前尺寸 (沾锡后会变大), 安装孔尺寸为推荐的PCB板孔的设计尺寸, 具体PCB板孔设计尺寸可根据产品实物进行测绘、调整.
2. 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 $> 5\text{mm}$, 公差为 $\pm 0.4\text{mm}$
3. 安装孔尺寸中未注尺寸公差为 $\pm 0.1\text{mm}$

DISCLAIMER:

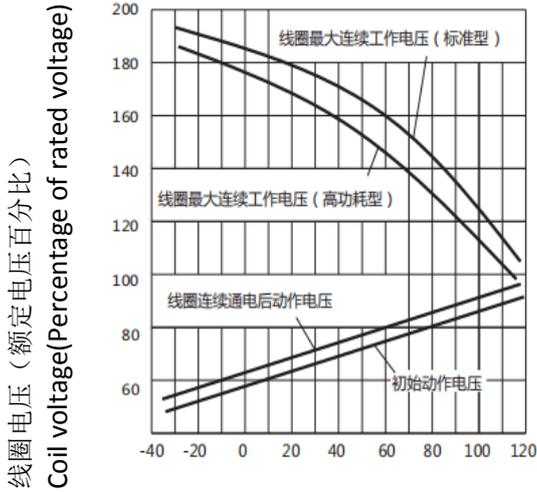
1. The pin dimension in the outline drawing or the product is the dimension before dipping tin (It gets bigger when stained with tin) The size of mounting hole is the recommended design size of PCB hole The specific PCB hole design size can be mapped and adjusted according to the actual product

2. The overall dimension of the product if not marked with dimensional tolerance, when the overall dimension $\leq 1\text{mm}$ Tolerance is $\pm 0.2\text{mm}$ When the overall dimension is $(1\sim 5)\text{mm}$ Between Tolerance is $\pm 0.3\text{mm}$ When the overall dimension $> 5\text{mm}$, Tolerance is $\pm 0.4\text{mm}$

3. The dimension tolerance of mounting hole without dimension injection is $\pm 0.1\text{mm}$

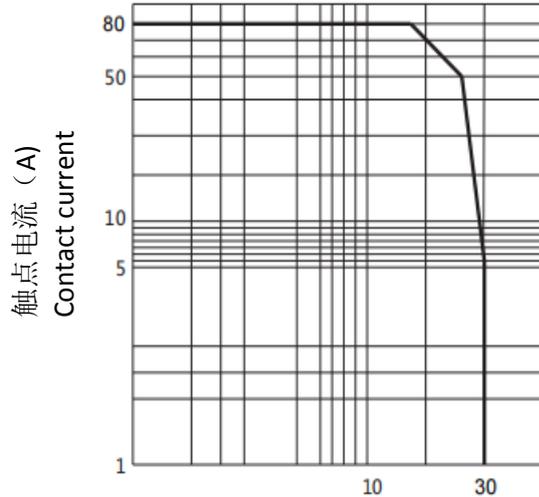
性能曲线图

1.线圈连续通电电压范围
Coil continuous energizing voltage range



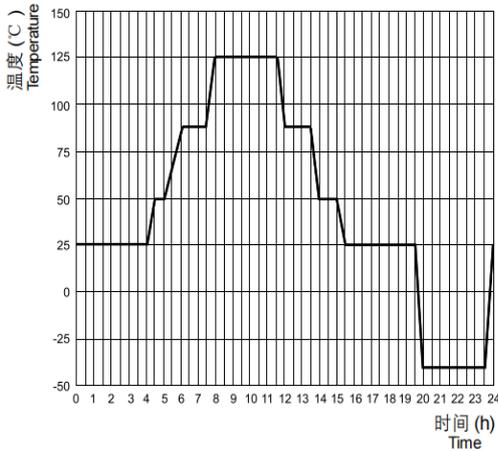
环境温度 (°C) ambient temperature

2.允许最大负载范围
Allowable maximum load range



触点电压 (VDC)
Contact voltage

3.电耐久试验环境温度曲线
Ambient Temperature Curve of the Electrical Endurance Test



说明:
(1) 最低温度为 -40°C
(2) 最高去温度为 125°C

(1) The minimum teperature is -40°C .
(2) The maximum temperature is 125°C

备注:

具体参数型号和产品性能以我司承认书为准, 本产品规格书仅作参考, 若有更改, 恕不另行通知。
对科信而言, 不可能评定继电器在每个具体应用领域的所有性能参数要求, 因而客户应该根据具体的使用条件, 选择与之相匹配的产品。若有疑问, 请与科信联系 以便获取更多的技术支持。但产品选型责任仅由客户负责。

DISCLAIMER:

The specific parameters, models, and product performance shall be subject to our company's acceptance letter. This product specification sheet is for reference only and is subject to change without prior notice.

For AFE, it is not possible to assess all performance requirements for relays in each specific application area and therefore the customer should select a suitable product for each specific application, please contact AFE for additional technical support. But the responsibility of product selection is only the responsibility of the customer.